

## 05.03 - STRUCTURE

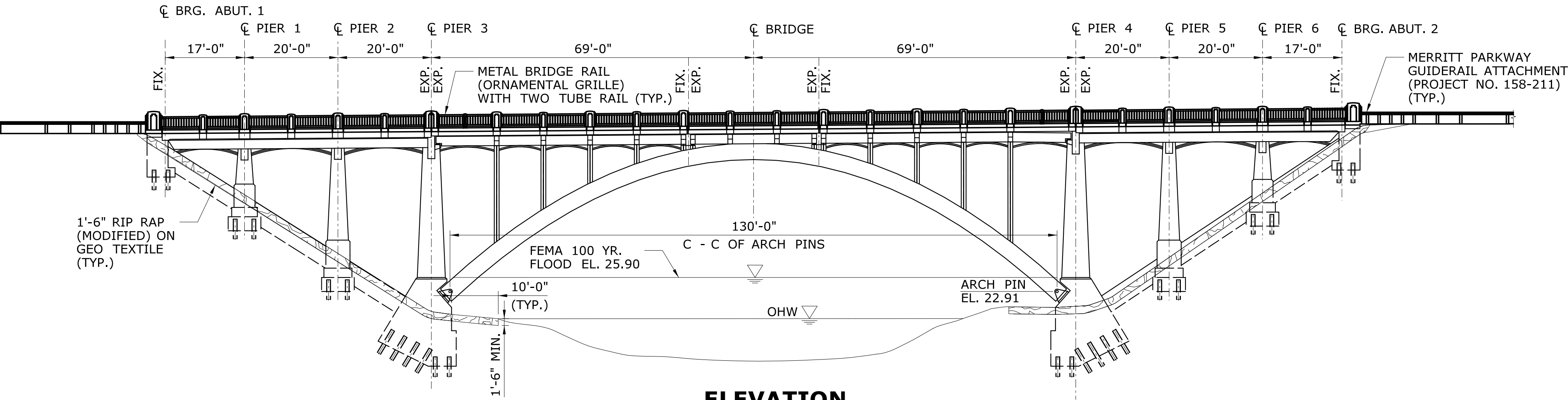
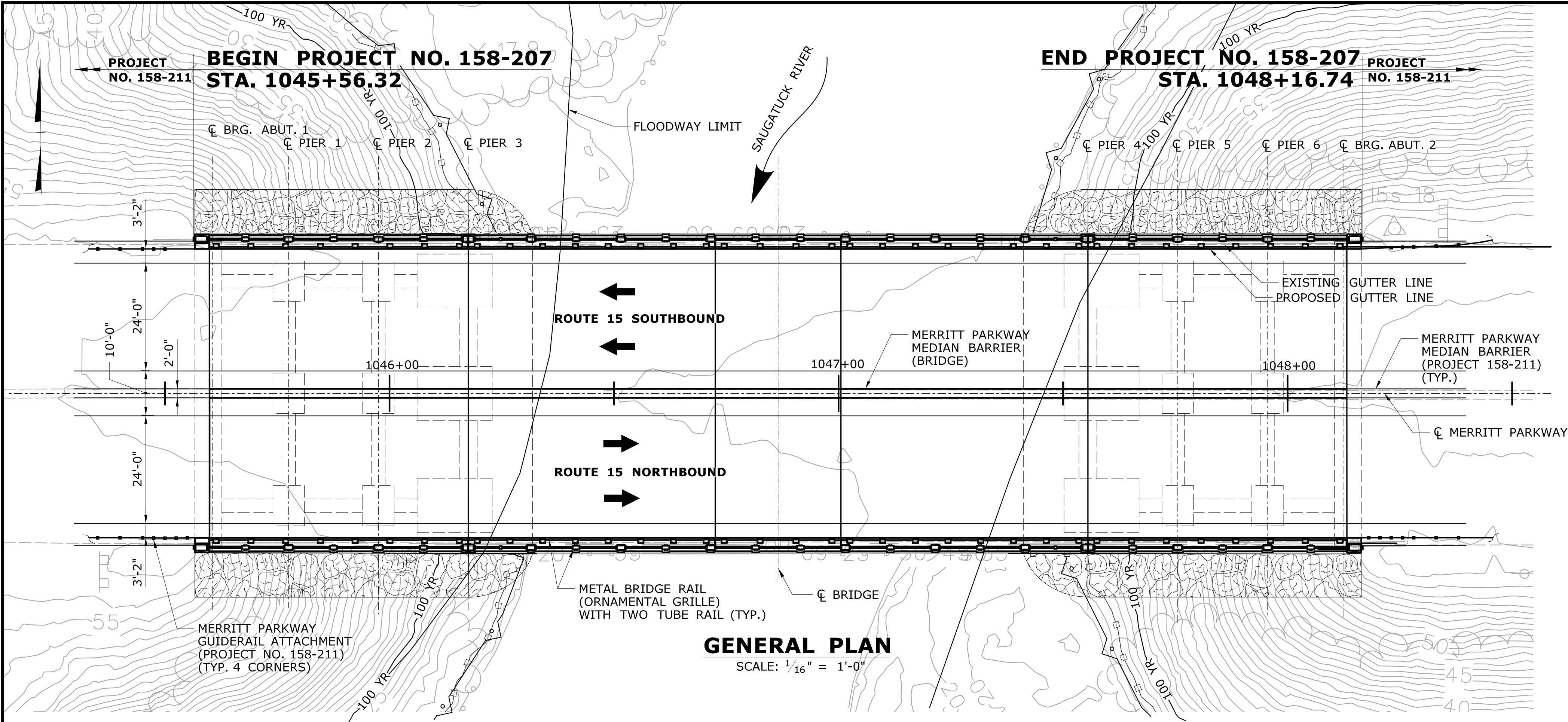
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DESIGNED BY:  
GM2 ASSOCIATES, INC.  
115 GLASTONBURY BLVD.  
GLASTONBURY, CT 06033

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### ELEVATION

SCALE: 1/16" = 1'-0"

### NOTICE TO BRIDGE INSPECTORS

THE DEPARTMENT'S BRIDGE SAFETY PROCEDURES REQUIRE THIS BRIDGE TO BE INSPECTED FOR, BUT NOT LIMITED TO, ALL APPROPRIATE COMPONENTS INDICATED IN THE GOVERNING MANUAL FOR BRIDGE INSPECTION. ATTENTION MUST BE GIVEN TO INSPECTING THE FOLLOWING SPECIAL COMPONENTS AND DETAILS, (THE LISTING FOR SPECIFIC ATTENTION SHALL NOT BE CONSTRUED TO REDUCE THE IMPORTANCE OF INSPECTION OF ANY OTHER COMPONENT OF THE STRUCTURE). THE FREQUENCY OF INSPECTION OF THIS STRUCTURE SHALL BE IN ACCORDANCE WITH THE GOVERNING MANUALS FOR BRIDGE INSPECTION. UNLESS OTHERWISE DIRECTED BY THE MANAGER OF SAFETY AND EVALUATION.

COMPONENT OR DETAIL	STRUCTURE SHEET REFERENCE
FOLLOW NORMAL INSPECTION PROCEDURES	

### CONCRETE DISTRIBUTION

SUPERSTRUCTURE	C.Y.	--
SUBSTRUCTURE	C.Y.	--
FOOTINGS	C.Y.	--
TOTAL	C.Y.	--

### INSPECTION OF FIELD WELDS

METHOD	UNIT	QUANTITY
ULTRASONIC	IN	0
MAGNETIC PARTICLE	IN	120

### GENERAL NOTES:

SPECIFICATIONS: CONNECTICUT DEPARTMENT OF TRANSPORTATION FORM 816 (2004), SUPPLEMENTAL SPECIFICATIONS DATED JANUARY 2016 AND SPECIAL PROVISIONS.

DESIGN SPECIFICATION: AASHTO LRFD DESIGN SPECIFICATIONS, 7TH EDITION (2014), WITH THE INTERIM SPECIFICATIONS UP TO AND INCLUDING (2016), AS SUPPLEMENTED BY THE CONNECTICUT DEPARTMENT OF TRANSPORTATION BRIDGE DESIGN MANUAL (2003), WITH THE LATEST REVISIONS.  
MERRITT PARKWAY BRIDGE RESTORATION GUIDE.  
AASHTO MANUAL FOR BRIDGE EVALUATION 2ND EDITION WITH INTERIMS UP TO AND INCLUDING 2016.

#### ALLOWABLE DESIGN STRESSES:

VARIABLE DEPTH PATCH FOR HISTORIC BASED ON  $f_c=4,000$  psi  
CLASS "S" CONCRETE FOR HISTORICAL BRIDGES:  $f_c=4,000$  psi  
CLASS "F" CONCRETE:  $f_c=4,000$  psi  
"PARTIAL DEPTH PATCH" CONCRETE: SEE SPECIAL PROVISIONS  
"FULL DEPTH PATCH (HIGH EARLY STRENGTH CONCRETE)": SEE SPECIAL PROVISIONS  
CLASS "C" CONCRETE - REPLICATED:  $f_c=4,000$  psi  
HIGH EARLY STRENGTH CONCRETE BASED ON  $f_c=4,000$  psi  
REINFORCEMENT (ASTM A615, GRADE 60),  $F_y=60,000$  psi

THE SPECIFIED CONCRETE STRENGTH USED IN DESIGN,  $f_c$ , OF THE CONCRETE COMPONENTS IS NOTED ABOVE. THE MINIMUM COMPRESSIVE STRENGTH OF THE CONCRETE IN THE CONSTRUCTED COMPONENTS SHALL CONFORM TO THE REQUIREMENTS OF "SECTION 6.01 CONCRETE FOR STRUCTURES."

LIVE LOAD: SEE DRAWING S-04

FUTURE PAVING ALLOWANCE: NONE.

STRUCTURAL STEEL: SEE STRUCTURAL STEEL NOTES ON DWG. S-24 FOR DESIGNATIONS AND REQUIREMENTS.

BITUMINOUS CONCRETE OVERLAY: THIS SHALL CONSIST OF TWO LIFTS: THE FIRST SHALL BE "HMA S0.25" (1" THICK) AND THE SECOND LIFT SHALL BE "HMA S0.5" (2" THICK).

FOUNDATION PRESSURES: N/A

DIMENSIONS: WHEN DECIMAL DIMENSIONS ARE GIVEN LESS THAN THREE DECIMAL PLACES, THE OMITTED DIGITS SHALL BE ASSUMED TO BE ZEROS.

EXISTING DRAWINGS: PLANS OF THE EXISTING STRUCTURE ARE INCLUDED FOR GENERAL REFERENCE ONLY AND MAY NOT DEPICT AS-BUILT CONDITIONS NOR ALL MODIFICATIONS MADE SINCE ORIGINAL CONSTRUCTION. THE CONTRACTOR SHALL TAKE ALL FIELD MEASUREMENTS NECESSARY TO ASSURE PROPER FIT OF THE FINISHED WORK AND SHALL ASSUME FULL RESPONSIBILITY FOR THEIR ACCURACY.

UTILITIES: N/A

EXISTING CONDITIONS: THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE FACT THAT DUE TO THE NATURE OF REHABILITATION PROJECTS, THE EXACT EXTENT OF REHABILITATION WORK CANNOT ALWAYS BE ACCURATELY DETERMINED PRIOR TO THE COMMENCEMENT OF WORK. THESE PLANS HAVE BEEN PREPARED BASED ON LIMITED FIELD INVESTIGATIONS AND BRIDGE INSPECTION REPORTS, AVAILABLE AT THE TIME. THE ACTUAL FIELD CONDITIONS MAY VARY AND MAY REQUIRE MODIFICATIONS TO CONSTRUCTION DETAILS AND WORK QUANTITIES. THE CONTRACTOR SHALL PERFORM ALL WORK IN ACCORDANCE WITH FIELD CONDITIONS AND AS DIRECTED BY THE ENGINEER.

### CONCRETE NOTES:

STAY-IN-PLACE FORMS: N/A

COMPOSITE CONSTRUCTION: N/A

CLASS "S" CONCRETE: CLASS "S" CONCRETE FOR HISTORIC BRIDGES SHALL BE USED FOR ALL CONCRETE REPAIRS EXCEPT DECK REPAIRS.

CLASS "C" CONCRETE: CLASS "C" CONCRETE SHALL BE USED FOR THE ORNAMENTAL PARAPET, SAFETY CURB AND END BLOCKS.

CLASS "F" CONCRETE: CLASS "F" CONCRETE SHALL BE USED FOR THE MEDIAN BARRIER.

PARTIAL DEPTH PATCH AND FULL DEPTH PATCH (HIGH EARLY STRENGTH CONCRETE): PARTIAL DEPTH PATCH AND FULL DEPTH PATCH (HIGH EARLY STRENGTH CONCRETE) SHALL BE USED IN DECK REPAIRS.

EXPOSED EDGES: EXPOSED EDGES OF CONCRETE SHALL BE BEVELED 1" X 1" UNLESS DIMENSIONED OTHERWISE.

CONCRETE COVER: ALL REINFORCEMENT SHALL HAVE 2" COVER UNLESS DIMENSIONED OTHERWISE.

REINFORCEMENT: ALL REINFORCEMENT SHALL BE ASTM A615, GRADE 60 UNLESS NOTED OTHERWISE.


EPOXY COATED REINFORCING BARS: ALL REINFORCEMENT IN THE PARAPETS AND END BLOCKS SHALL BE EPOXY COATED UNLESS OTHERWISE NOTED. THESE BARS SHALL BE INCLUDED IN THE PAY ITEM "DEFORMED STEEL BARS (EPOXY COATED)".

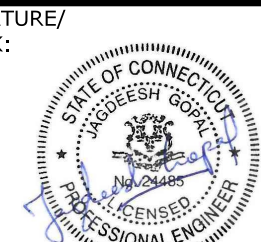
CONSTRUCTION JOINTS: CONSTRUCTION JOINTS, OTHER THAN THOSE SHOWN ON THE PLANS, WILL NOT BE PERMITTED WITHOUT PRIOR APPROVAL OF THE ENGINEER.

ORNAMENTAL PARAPET AND ENDBLOCKS: ORNAMENTAL PARAPET AND END BLOCKS SHALL BE CAST IN PLACE.

REV.	DATE	REVISION DESCRIPTION	SHEET NO.	Plotted Date: 7/6/2016

DESIGNER/DRAFTER:  
**NRA**  
CHECKED BY:  
**JG**  
SCALE AS NOTED

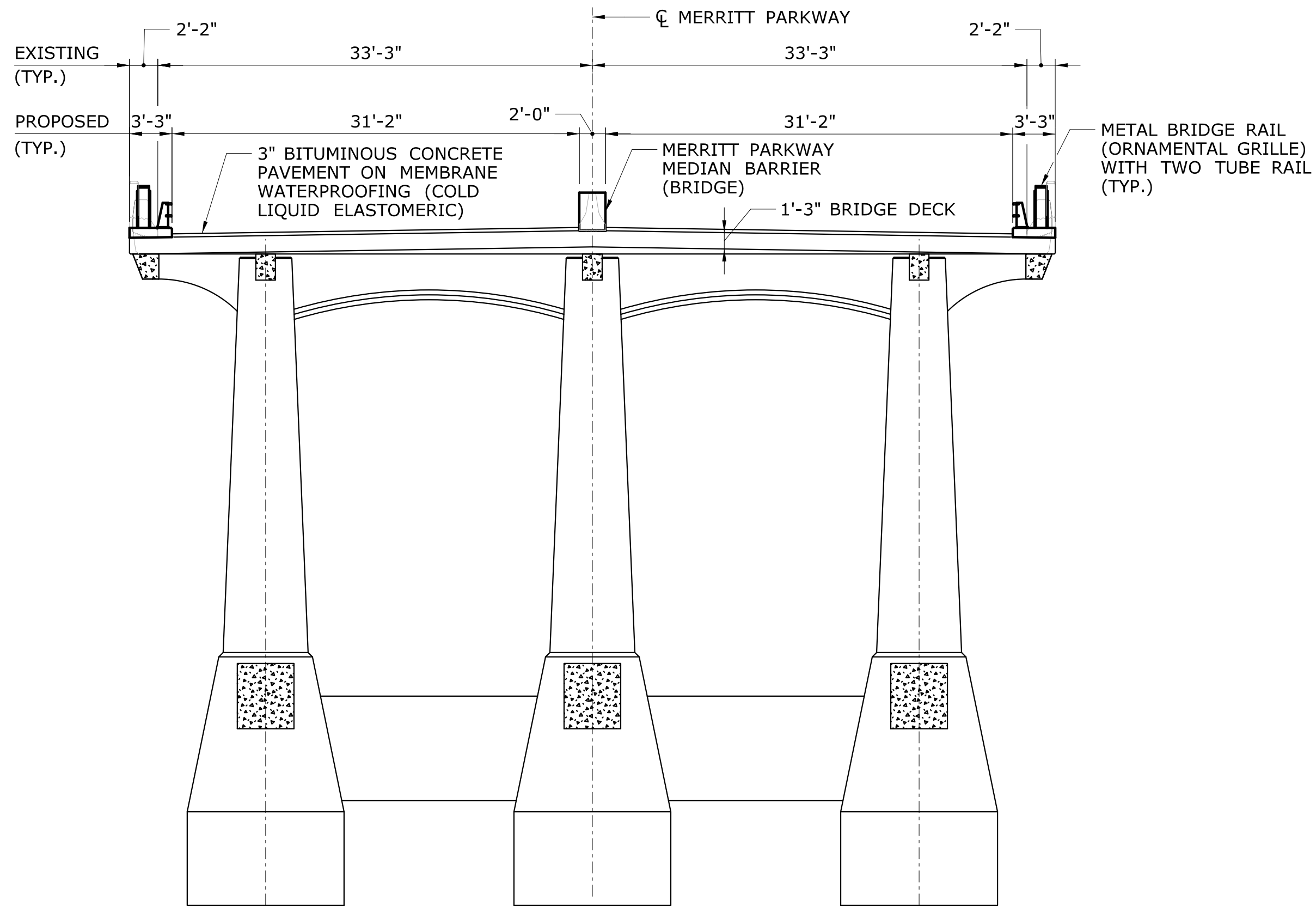
**STATE OF CONNECTICUT**  
**DEPARTMENT OF TRANSPORTATION**  
Filename: ...\\SB\_MSH\_158-207\_GPN.dgn

SIGNATURE/  
BLOCK:  
  
GM2 ASSOCIATES, INC.  
115 GLASTONBURY BLVD.  
GLASTONBURY, CT 06033

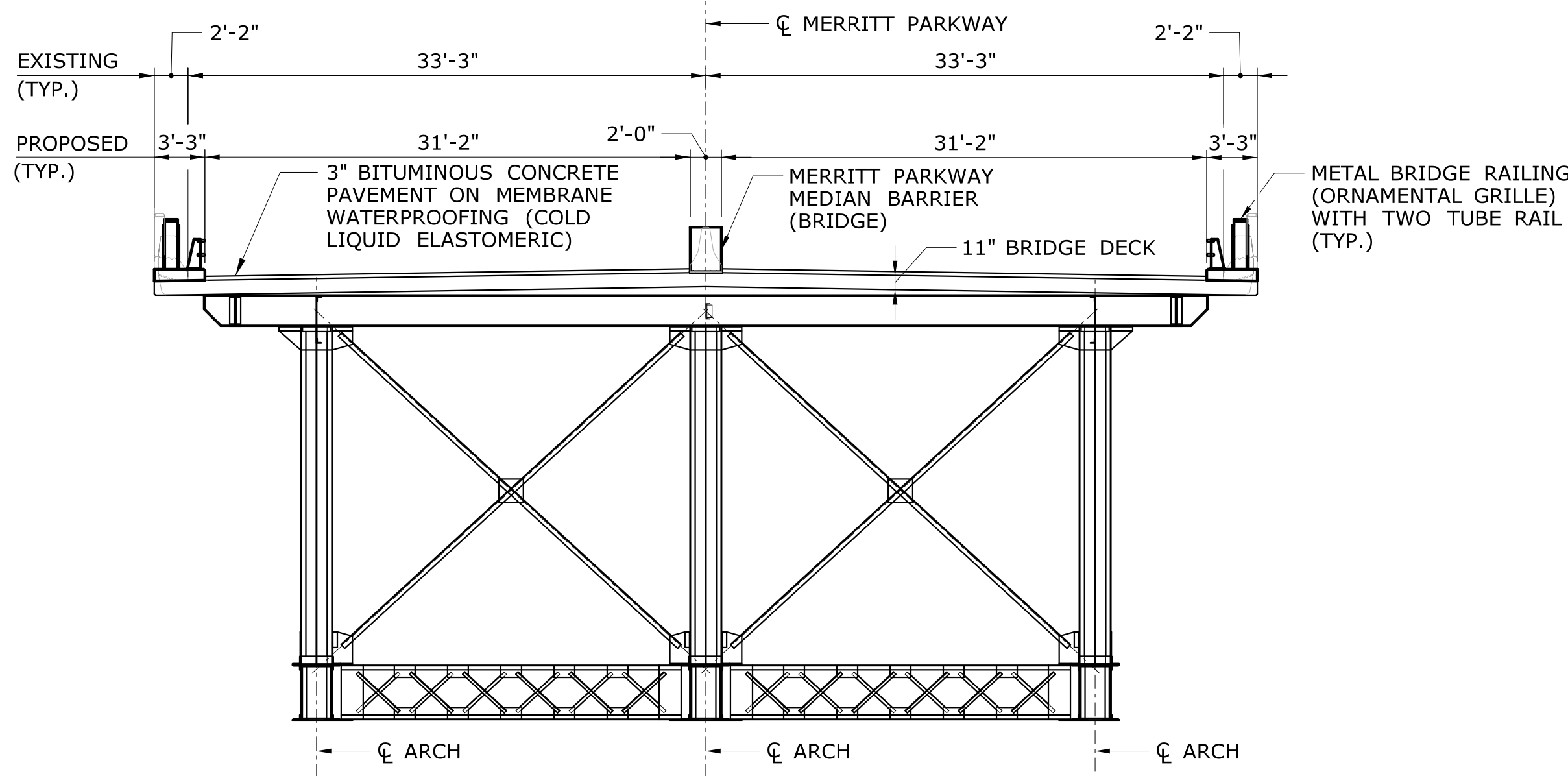
PROJECT TITLE:  
**REHABILITATION OF BRIDGE 00728**  
**MERRITT PARKWAY**  
**OVER SAUGATUCK RIVER**

TOWN:  
**WESTPORT**  
DRAWING TITLE:  
**GENERAL PLAN**  
PROJECT NO.  
**158-207**  
DRAWING NO.  
**S-02**  
SHEET NO.  
**05.03.02**

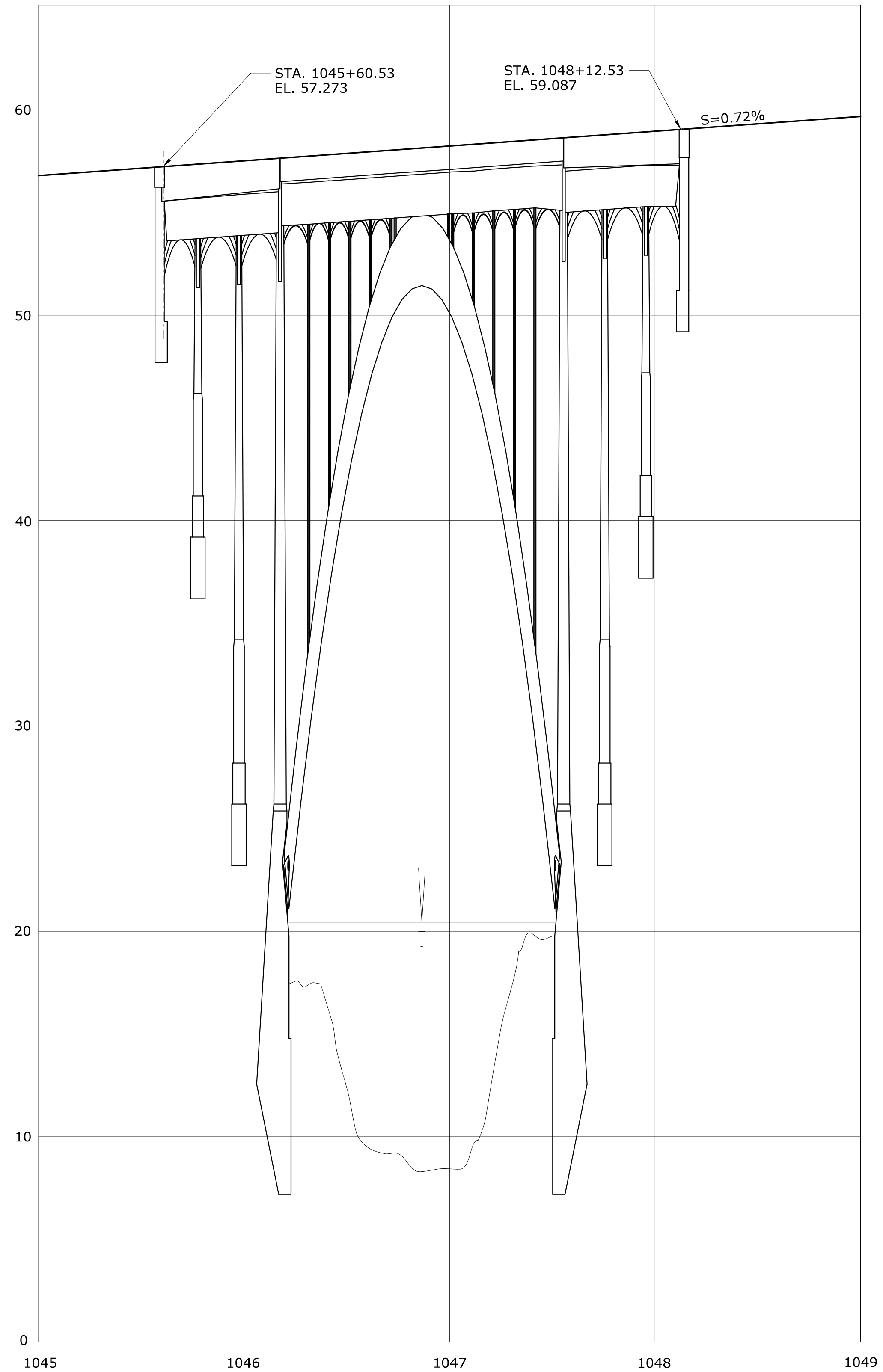




**SECTION AT CONCRETE APPROACH SPAN**  
SCALE:  $\frac{1}{8}$ " = 1'-0"



**SECTION AT STEEL ARCH SPAN**  
SCALE:  $\frac{1}{8}$ " = 1'-0"



**PROFILE**

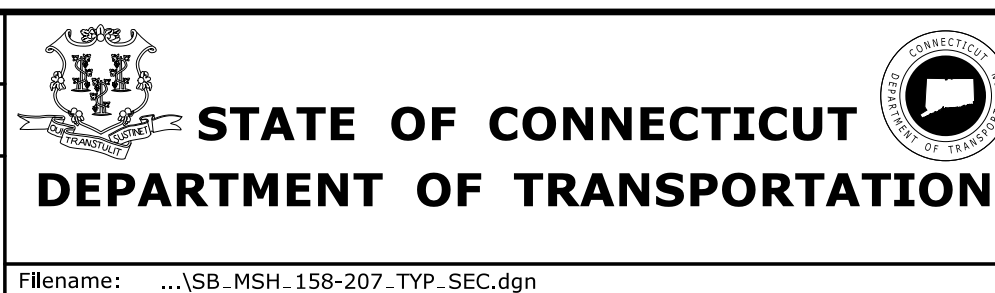
HORIZONTAL SCALE: 1" = 40'-0"  
VERTICAL SCALE:  $\frac{1}{4}$ " = 1'-0"

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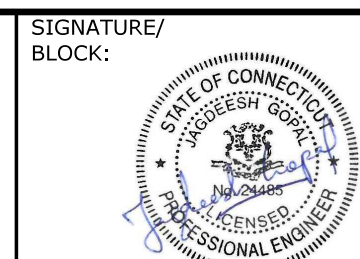
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Plotted Date: 7/6/2016

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**NRA**  
CHECKED BY:  
**JG**  
SCALE AS NOTED



Filename: ...\\SB\_MSH\_158-207\_TYP\_SEC.dgn



SIGNATURE/  
BLOCK:  
GM2 ASSOCIATES, INC.  
115 GLASTONBURY BLVD  
GLASTONBURY, CT 06033

PROJECT TITLE:  
**REHABILITATION OF BRIDGE 00728  
MERRITT PARKWAY  
OVER SAUGATUCK RIVER**

TOWN:  
**WESTPORT**  
DRAWING TITLE:  
**TYPICAL SECTION  
AND PROFILE**  
PROJECT NO.  
**158-207**  
DRAWING NO.  
**S-03**  
SHEET NO.  
**05.03.03**



1. DEMOLISH EXISTING PARAPET AND RECONSTRUCT HISTORIC ORNAMENTAL PARAPET WITH MERRITT PARKWAY TWO TUBE RAIL.
2. REMOVE EXISTING MEDIAN BARRIER AND INSTALL MERRITT PARKWAY MEDIAN BARRIER.
3. REMOVE OVERLAY, INSTALL SPRAY-ON WATERPROOFING MEMBRANE AND NEW OVERLAY.
4. RECONSTRUCT DECK ENDS AND INSTALL NEW EXPANSION JOINTS.
5. PERFORM CONCRETE SUBSTRUCTURE REPAIRS.
6. PERFORM DECK REPAIRS.
7. PERFORM STEEL REPAIRS.
8. COAT ENTIRE STRUCTURE WITH HRCSA CORROSION PROTECTION SYSTEM.
9. INSTALL RIPRAP AS SHOWN ON THE PLANS

1. MERRITT PARKWAY GUIDERAIL INCLUDING ATTACHMENTS ARE INCLUDED UNDER THE ITEMS FOR PROJECT #158-211.
2. HMA WEARING SURFACE OUTSIDE THE LIMITS OF THE ABUTMENT JOINTS ARE INCLUDED UNDER PROJECT #158-211.
3. MERRITT PARKWAY MEDIAN BARRIER NOT ON THE BRIDGE IS INCLUDED UNDER PROJECT #158-211.
4. ITEMS FOR MAINTENANCE AND PROTECTION OF TRAFFIC ARE INCLUDED IN THIS CONTRACT. SEE TRAFFIC PLANS.
5. ALL OTHER ROADWAY ITEMS ARE INCLUDED UNDER PROJECT #158-211 UNLESS SPECIFICALLY NOTED OTHERWISE.

1. ALL TRAFFIC OPERATIONS MUST COMPLY WITH THE LIMITATIONS OF OPERATIONS IN SECTION 1.08 PROSECUTION AND PROGRESS.
2. CONTRACTOR SHALL MAINTAIN AND PROTECT TRAFFIC IN ACCORDANCE WITH THE ITEM "MAINTENANCE AND PROTECTION OF TRAFFIC".
3. ALL MAINTENANCE AND PROTECTION OF TRAFFIC SHALL BE COORDINATED WITH PROJECT #158-211.

1. THE CONTRACTOR IS ADVISED TO NOTE THAT DETERIORATION OF THE ARCH RIBS HAVE SIGNIFICANTLY COMPROMISED THE LOAD CARRYING CAPACITY OF THE BRIDGE. THE CONTRACTOR WILL NOT BE ALLOWED TO OPERATE ANY CONSTRUCTION EQUIPMENT ON THE BRIDGE THAT EXCEED THE LOADS LIMITATIONS NOTED ON THIS DRAWING.
2. PRIOR TO APPLYING ANY CONSTRUCTION LOADS OR OPERATING ANY EQUIPMENT ON THE BRIDGE, THE CONTRACTOR SHALL SUBMIT FOR REVIEW A DETAILED PLAN OUTLINING HIS MEANS OF ACCESS, EXPLICITLY IDENTIFYING THE ASSUMED LOADS THAT WILL BE IMPOSED ON THE STRUCTURE DURING CONSTRUCTION. AT A MINIMUM, THE FOLLOWING SHALL BE INCLUDED AS PART OF THE SPECIAL PROVISION "CONSTRUCTION ACCESS".

WEIGHT OF TEMPORARY ACCESS PLATFORMS, DEBRIS SHIELDS, CONTAINMENT SYSTEMS, SCAFFOLDING AND ANY OTHER COMPONENTS THAT WILL BE SUPPORTED BY THE BRIDGE ON A "PERMANENT" BASIS DURING CONSTRUCTION.

WEIGHT OF PERSONNEL, TEMPORARY SUPPORTS, GENERATORS, COMPRESSORS, PUMPS, LIGHTING FIXTURES, WATER TANKS, VEHICLES, EXCAVATORS AND ANY OTHER EQUIPMENT THAT WILL BE SUPPORTED BY THE BRIDGE ON AN INTERMITTENT BASIS DURING CONSTRUCTION.

- A. ANY VEHICULAR LIVE LOAD THAT EXCEEDS THE DESIGN LIVE LOADS NOTED ON THIS SHEET WILL NOT PERMITTED ON THE BRIDGE AT ANY GIVEN TIME.
- B. DURING CONSTRUCTION, NO MORE THAN ONE TRUCK AT A TIME SHALL BE ALLOWED TO TRAVEL OVER THE STRUCTURE AT ANY GIVE TIME.
- C. FOR ALL CONSTRUCTION VEHICLES THAT EXCEED THE WEIGHT OF A H-10 TRUCK, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR REVIEW THE ANTICIPATED AXLE LOADS.
- D. THE STANDARD PAVING TRAIN CANNOT BE USED ON THE STRUCTURE.

A. PLATFORMS SHALL BE A LIGHT WEIGHT CABLE SUPPORTED SYSTEM. COMBINED UNIFORM DEAD + LIVE LOADS ON THE STRUCTURE SHALL NOT EXCEED THE FOLLOWING VALUES:

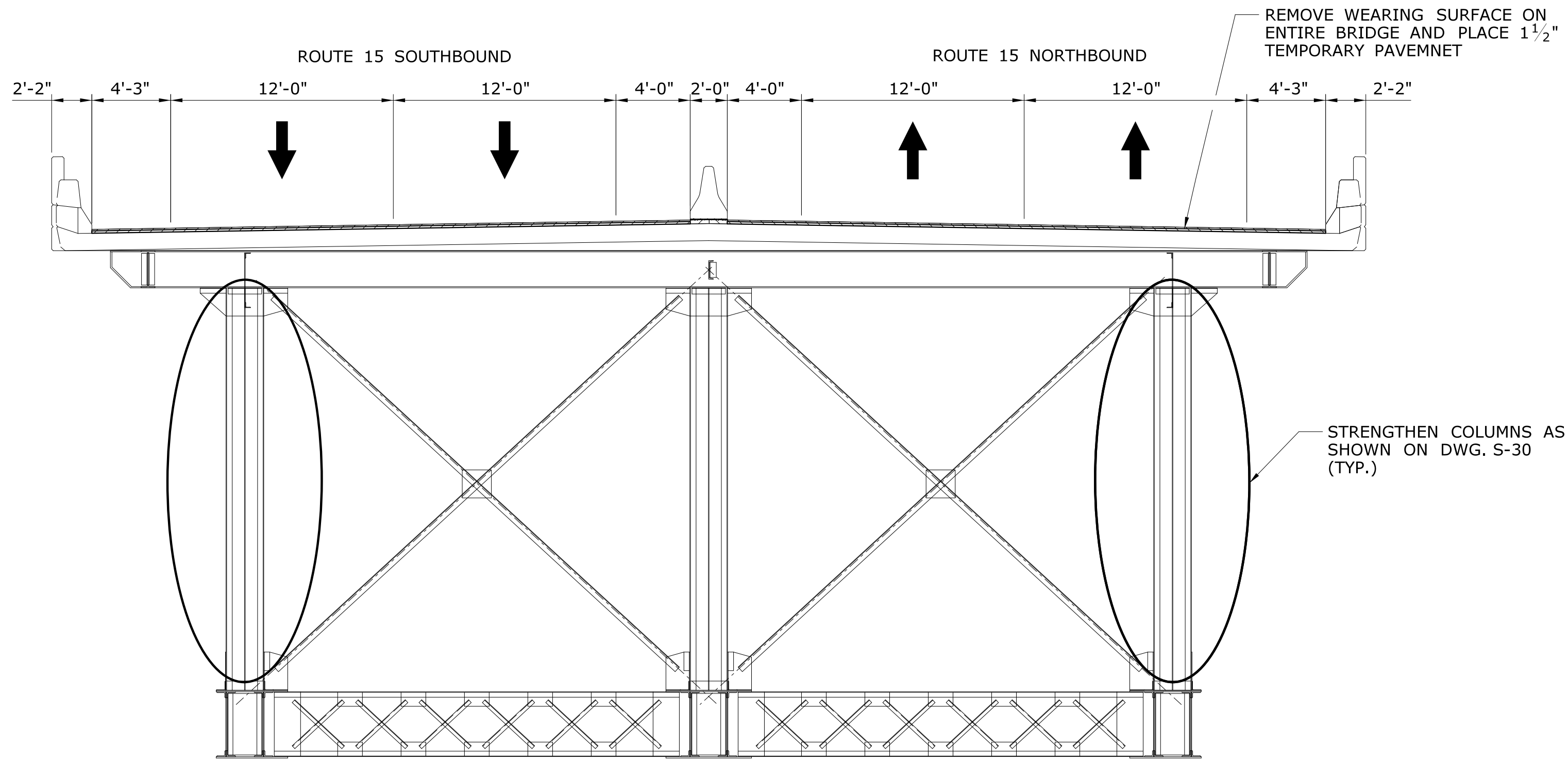
B. CONSTRUCTION DEAD LOADS SHALL LOAD THE STRUCTURE SYMMETRICALLY AT ALL TIMES. LOADING SHALL BE SYMMETRIC WITH RESPECT TO THE LONGITUDINAL AS WELL AS TRANSVERSE DIRECTION AND SHALL APPLY TO LOADS APPLIED TO FLOORBEAMS, COLUMNS AND ARCH RIBS.

D. CONSTRUCTION LIVE LOADS SHALL BE SYMMETRIC WITH RESPECT TO THE LONGITUDINAL AS WELL AS TRANSVERSE DIRECTION. THE ENGINEER MAY REQUIRE RELOCATION OF MATERIAL AND/OR EQUIPMENT SUPPORTED BY THE STRUCTURE IF HE DEEMSTHAT THE LOADING CONDITIONS ARE UNSYMMETRIC IN NATURE,

- B. CREATE MEANS TO PROVIDE ACCESS TO THE BRIDGE AS REQUIRED AND INSTALL SILT FENCE.
- C. INSTALL TEMPORARY WORK PLATFORM ACROSS THE WHOLE BRIDGE AS REQUIRED.
- C. INSTALL MONORAIL CRANE SYSTEM OR USE OTHER ALTERNATE METHODS AS REQUIRED TO FACILITATE DELIVERY OF MATERIAL AND EQUIPMENT BELOW THE STRUCTURE.
- D. CONSTRUCT COFFERDAMS AND INSTALL TIMBER MATTING AT THE BOTTOM OF THE ARCH AS REQUIRED.
- E. PERFORM COLUMN STRENGTHENING AS SHOWN ON DRAWING S-30.
- F. REMOVE OVERLAY ACROSS THE WHOLE BRIDGE.
- G. INSTALL TEMPORARY PAVEMENT ON THE BRIDGE.
- H. GRIND HEADERS DOWN TO RIDING SURFACE AND INSTALL TEMPORARY JOINT.
- I. START STAGE CONSTRUCTION.
- J. PERFORM ARCH RIB REPAIRS AS SHOWN ON DRAWING S-25. ONLY REPAIRS THAT STRENGTHEN THE ARCH RIB SHOULD BE PERFORMED AT THIS TIME.
- K. PERFORM STEEL REPAIRS IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. STEEL REPAIRS THAT REQUIRE THE COLUMN-ARCH RIB CONNECTION TO BE DISCONNECTED SHALL BE PERFORMED DURING THE APPROPRIATE STAGE OF CONSTRUCTION WHERE THE LOAD ON THE ARCH RIB IS MINIMIZED.
- L. PERFORM SUBSTRUCTURE CONCRETE REPAIRS. SOME REPAIRS WILL REQUIRE TEMPORARY SHORING OF THE PIER CAPS.
- M. RECONSTRUCT BRIDGE RAILING SYSTEM DURING APPROPRIATE STAGE OF CONSTRUCTION AS SHOWN ON STAGE CONSTRUCTION DRAWINGS.
- N. APPLY HRCSA CORROSION PROTECTION SYSTEM TO ALL STEEL COMPONENTS.
- O. REMOVE STEEL TEMPORARY DECK PLATE AND RECONSTRUCT DECK ENDS AS SHOWN ON DWG S-34.
- P. INSTALL DECK JOINTS.
- Q. REMOVE TEMPORARY PAVEMENT AND INSTALL NEW MEMBRANE WATERPROOFING AND PAVE THE BRIDGE.
- R. REMOVE COFFERDAM AND PLACE RIPRAP BELOW THE BRIDGE.
- S. REMOVE TEMPORARY SUPPORT SYSTEM.
- T. PLACE THE REST OF THE RIPRAP, REMOVE SILT FENCE AND RESTORE THE SITE TO ORIGINAL CONDITIONS.

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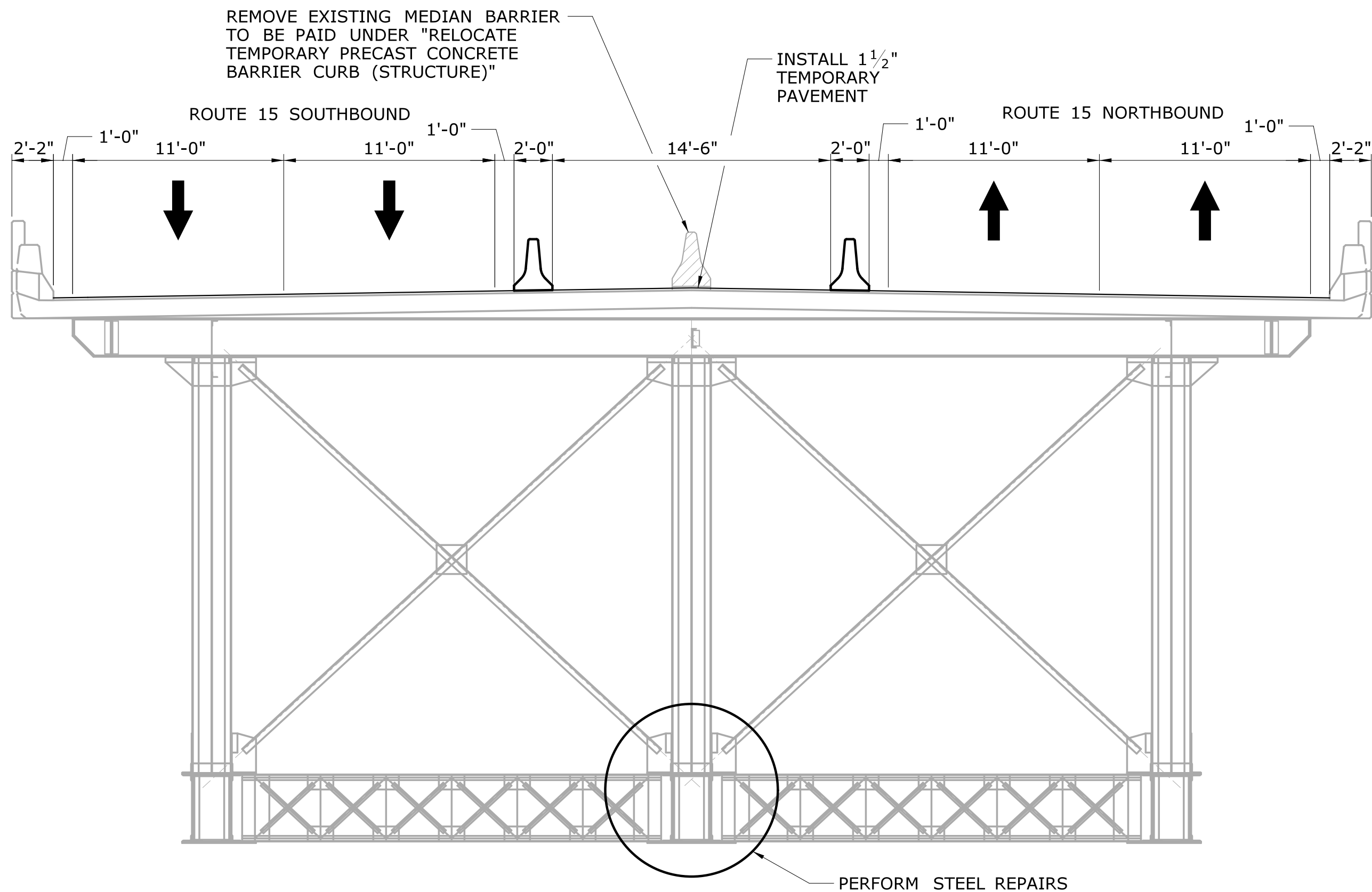




### PRIOR TO STAGE 1 CONSTRUCTION



DURING THE ALLOWABLE HOURS IN ACCORDANCE WITH LIMITATIONS OF OPERATION AND UTILIZING STANDARD TRAFFIC CONTROL PLANS.

1. REMOVE EXISTING BITUMINOUS OVERLAY TO EXPOSE THE CONCRETE DECK.
2. REMOVE EXISTING EXPANSION JOINTS ON THE BRIDGE.
3. GRIND PORTION OF THE HEADERS DOWN TO RIDING SURFACE FOR TEMPORARY PAVEMENT. COST TO BE INCLUDED UNDER REMOVAL OF HMA WEARING SURFACE.
4. INSTALL TEMPORARY JOINT SEAL DURING CONSTRUCTION FOR EXPANSION JOINT IN ACCORDANCE WITH SECTION M.03.08 - JOINT SEALER FOR STRUCTURES AND COST TO BE INCLUDED UNDER GENERAL COST OF THE PROJECT.
4. INSTALL 1½" TEMPORARY PAVEMENT IN ACCORDANCE WITH SPECIAL PROVISION "TEMPORARY PAVEMENT".
5. PERFORM COLUMN REPAIRS.

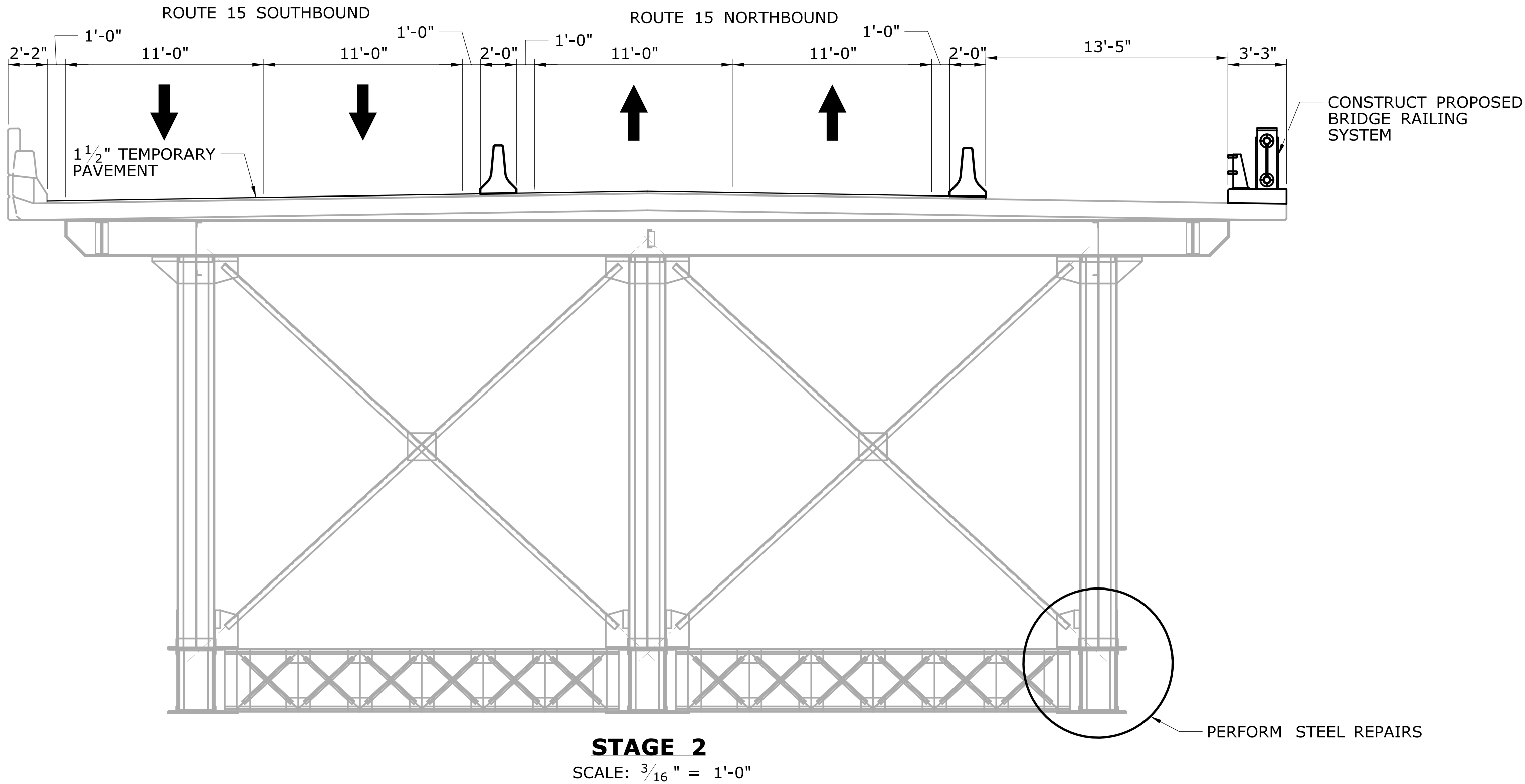


### STAGE 1 CONSTRUCTION

1. REMOVE EXISTING PAVEMENT MARKINGS AND INSTALL NEW PAVEMENT MARKINGS AND SIGNING AS SHOWN IN THE MPT PLANS.
2. SHIFT SOUTHBOUND LANES TOWARDS THE NORTH OF THE STRUCTURE AND NORTHBOUND LANES TOWARDS THE SOUTH OF THE STRUCTURE.
3. INSTALL TEMPORARY PRECAST CONCRETE BARRIER CURB (TPCBC) AND REMOVE EXISTING MEDIAN BARRIER CURB ON THE BRIDGE.
4. INSTALL 1½" TEMPORARY PAVEMENT IN THE MEDIAN PORTION.
5. PERFORM STEEL REPAIRS TO ARCH 2.
6. PERFORM CONCRETE DECK PATCHING AS SHOWN ON DWG S-23 AND SUBSTRUCTURE REPAIRS. SOME CONCRETE DECK PATCHING MAY NEED TO BE DONE UTILIZING TEMPORARY LANE CLOSURES. REMOVE AND REINSTALL TEMPORARY PAVEMENT AS NEEDED.

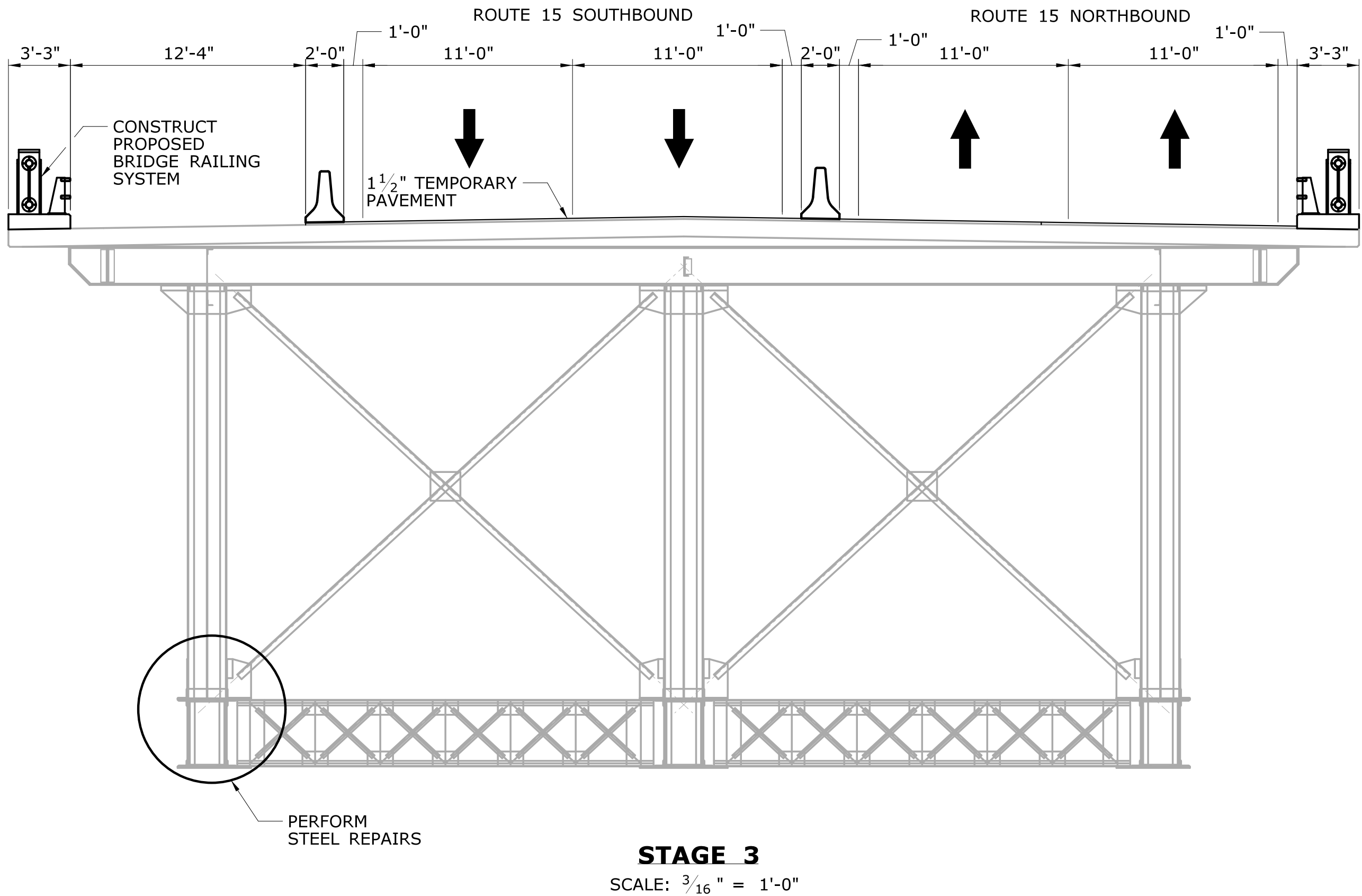
				DESIGNER/DRAFTER: <b>SC/NRA</b>		 <b>STATE OF CONNECTICUT</b> <b>DEPARTMENT OF TRANSPORTATION</b>		SIGNATURE/ BLOCK:  GM2 ASSOCIATES, INC. 115 GLASTONBURY BLVD GLASTONBURY, CT 06033	PROJECT TITLE:  <b>REHABILITATION OF BRIDGE 00728</b> <b>MERRITT PARKWAY</b> <b>OVER SAUGATUCK RIVER</b>	TOWN: <b>WESTPORT</b>	PROJECT NO. <b>158-207</b>		
				CHECKED BY: <b>JG</b>								DRAWING NO. <b>S-05</b>	
				SCALE AS NOTED									SHEET NO. <b>05.03.05</b>
REV.	DATE	REVISION DESCRIPTION	SHEET NO.	Plotted Date: 7/6/2016		Filename: ...\\SB_MSH-158-207-STAGE.CONSTRUCTION_1.dgn		DRAWING TITLE: <b>STAGE CONSTRUCTION</b> <b>(1 OF 3)</b>					





### STAGE 2 CONSTRUCTION

1. DURING STAGE 2 CONSTRUCTION ALL LANES ARE SHIFTED TOWARDS THE NORTH OF THE STRUCTURE.
2. REMOVE TPCBC ON THE SOUTH SIDE OF THE BARRIER.
3. REMOVE CONFLICTING PAVEMENT MARKINGS AND INSTALL NEW PAVEMENT MARKINGS AND SIGNING AS SHOWN IN THE MPT PLAN.
4. SHIFT THE NORTHBOUND LANES TO THIS NEW ALIGNMENT.
5. INSTALL TPCBC AS SHOWN IN THE MPT PLANS.
6. REMOVE TEMPORARY PAVEMENT ON THE BRIDGE.
7. PERFORM STEEL REPAIRS TO ARCH 3.
8. CONSTRUCT BRIDGE RAILING SYSTEM ON NORTHBOUND SIDE.
9. PERFORM CONCRETE DECK PATCHING AS SHOWN ON DWG S-23 AND SUBSTRUCTURE REPAIRS.SOME CONCRETE DECK PATCHING MAY NEED TO BE DONE UTILIZING TEMPORARY LANE CLOSURES. REMOVE AND REINSTALL TEMPORARY PAVEMENT AS NEEDED.
10. INSTALL TEMPORARY PAVEMENT ON THE PATCHED DECK PORTION.



### STAGE 3 CONSTRUCTION

1. DURING STAGE 3 CONSTRUCTION ALL LANES ARE SHIFTED TOWARDS THE SOUTH OF THE STRUCTURE.
2. REMOVE THE TPCBC ON THE SOUTH SIDE OF THE NORTHBOUND LANES.
3. REMOVE CONFLICTING PAVEMENT MARKINGS AND INSTALL NEW PAVEMENT MARKINGS AND SIGNING AS SHOWN IN THE MPT PLANS.
4. SHIFT NORTHBOUND TRAFFIC TO THE NEW ALIGNMENT.
5. REMOVE THE TPCBC BETWEEN THE NORTHBOUND AND SOUTHBOUND LANES.
6. REMOVE CONFLICTING PAVEMENT MARKINGS AND INSTALL NEW PAVEMENT MARKINGS AND SIGNING AS SHOWN IN THE MPT PLANS.
7. SHIFT SOUTHBOUND TRAFFIC TO THE NEW ALIGNMENT.
8. INSTALL THE TPCBC ON THE NORTH SIDE OF THE BRIDGE.
9. REMOVE TEMPORARY PAVEMENT ON THE BRIDGE WHERE DECK PATCHING IS TO BE PERFORMED.
10. PERFORM STEEL REPAIRS TO ARCH 1.
11. CONSTRUCT BRIDGE RAILING SYSTEM ON SOUTHBOUND SIDE.
12. PERFORM CONCRETE DECK PATCHING AS SHOWN ON DWG S-23 AND SUBSTRUCTURE REPAIRS. SOME CONCRETE DECK PATCHING MAY NEED TO BE DONE UTILIZING TEMPORARY LANE CLOSURES. REMOVE AND REINSTALL TEMPORARY PAVEMENT AS NEEDED.
13. RECONSTRUCT CORBELS AT PIERS 3 & 4 NORTH OF THE BRIDGE.
14. INSTALL TEMPORARY PAVEMENT ON PATCHED PORTION OF THE DECK.

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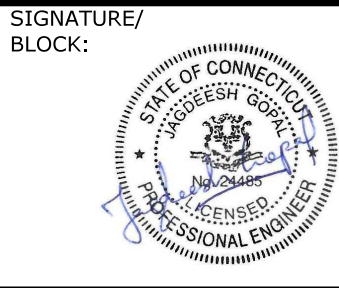
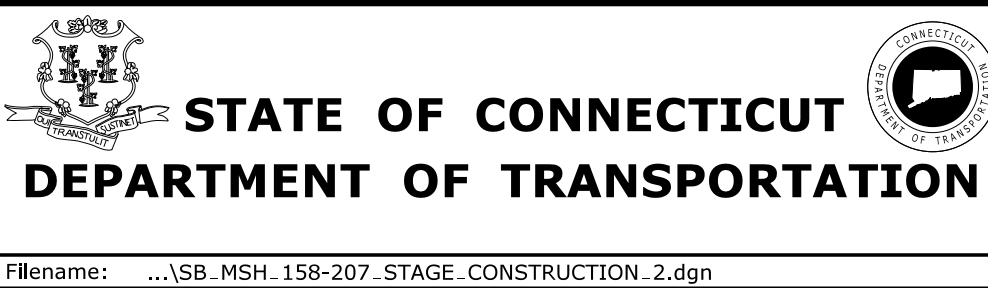
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SCALE AS NOTED



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115 GLASTONBURY BLVD  
GLASTONBURY, CT 06033

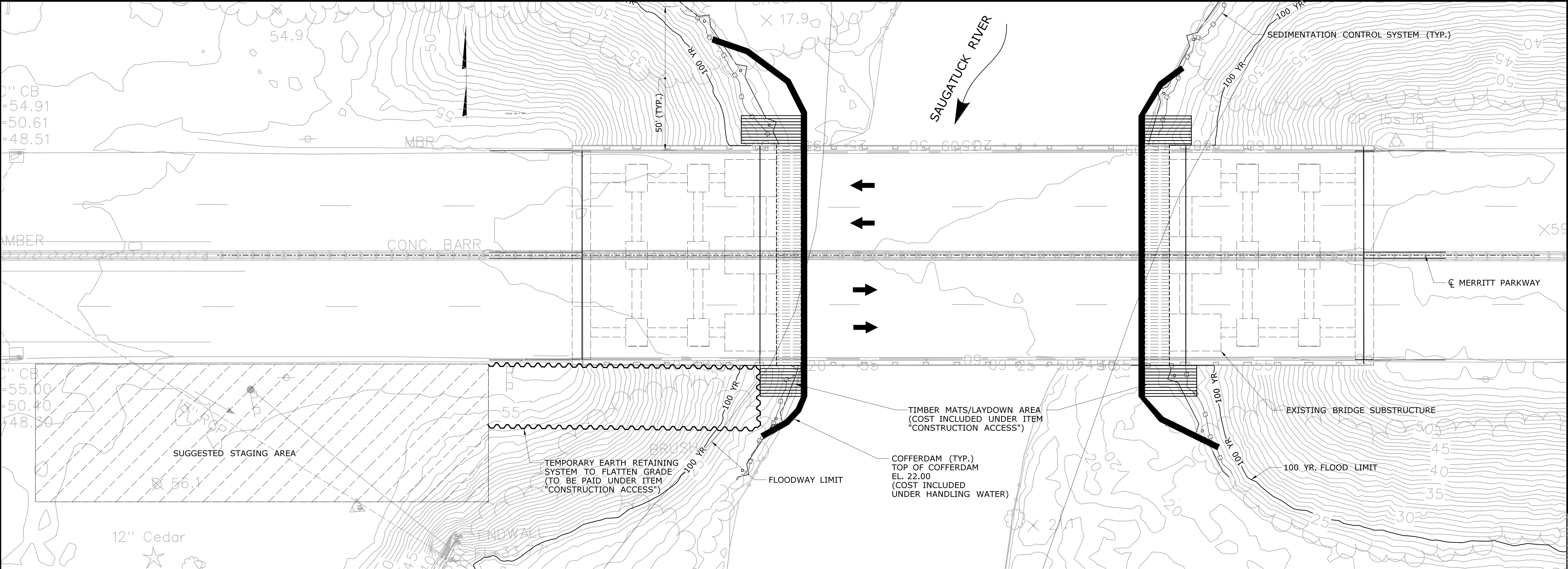
PROJECT TITLE:  
**REHABILITATION OF BRIDGE 00728  
MERRITT PARKWAY  
OVER SAUGATUCK RIVER**

TOWN: <b>WESTPORT</b>	PROJECT NO. <b>158-207</b>
DRAWING TITLE: <b>STAGE CONSTRUCTION (2 OF 3)</b>	DRAWING NO. <b>S-06</b>
	SHEET NO. <b>05.03.06</b>









SUGGESTED STAGING PLAN

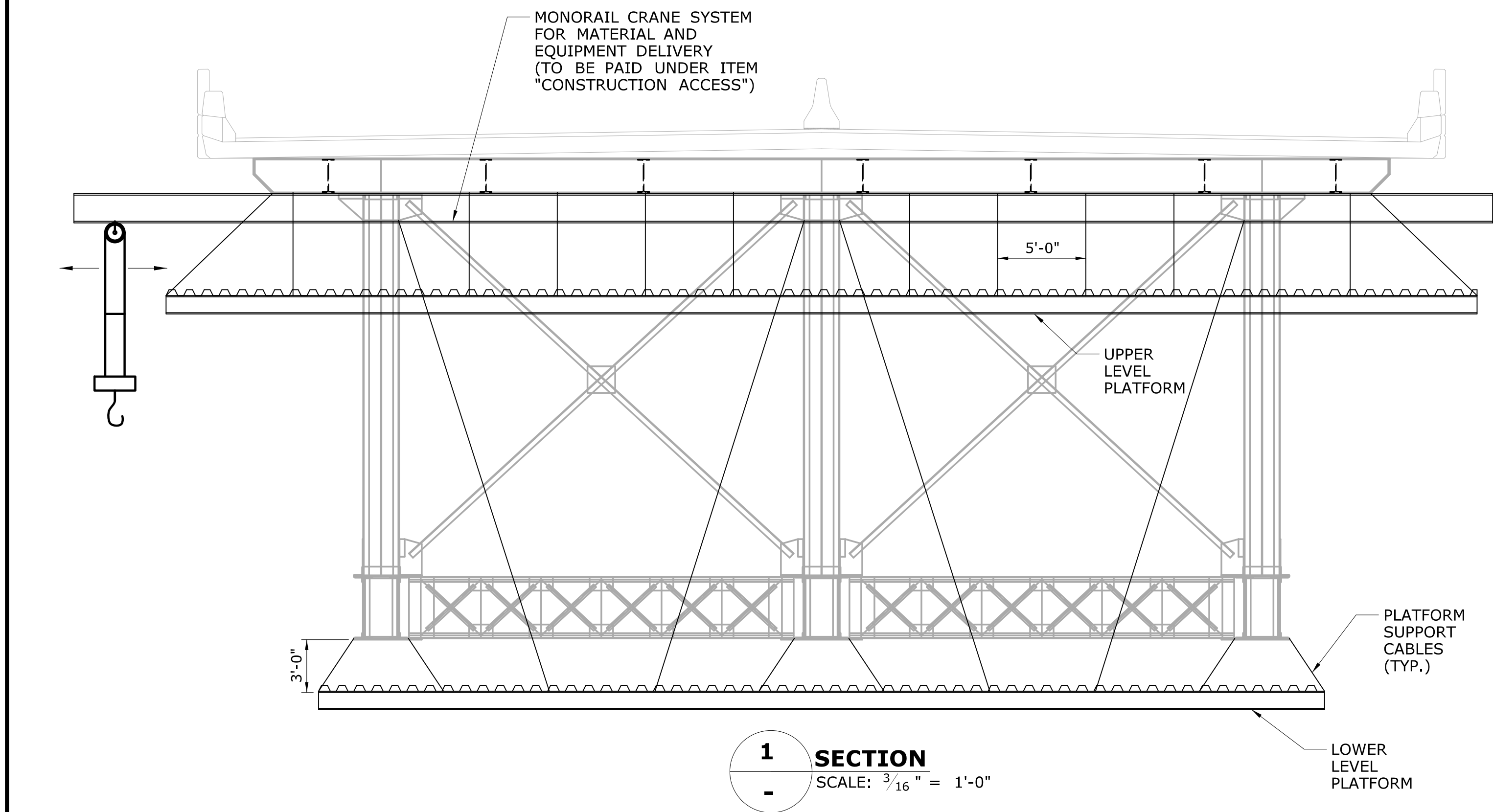
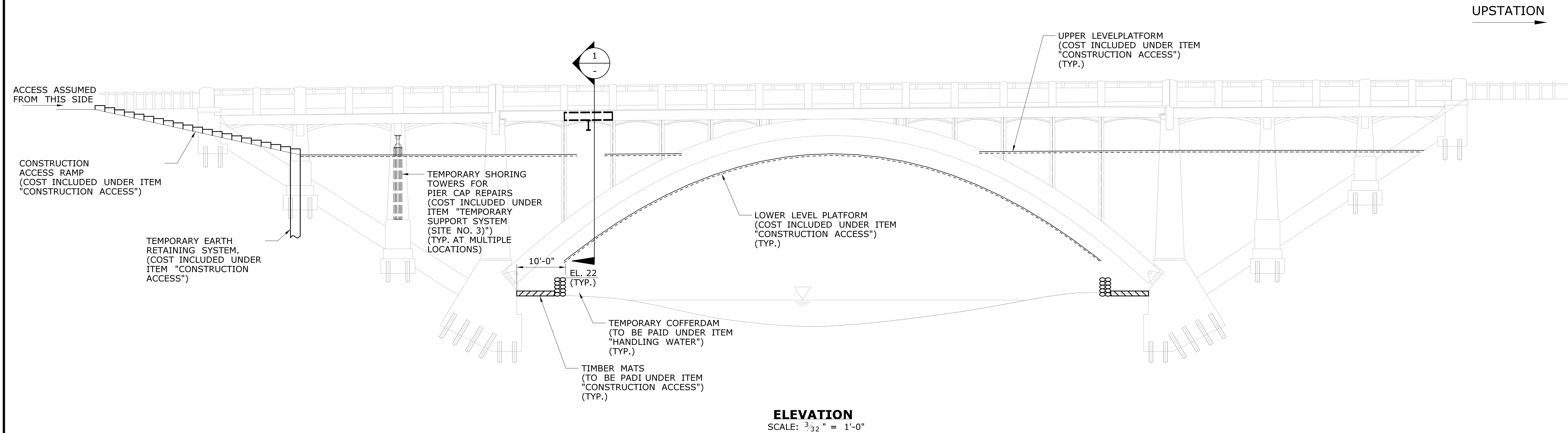
SCALE: 1/16" = 1'-0"

STAGING PLAN NOTES:

1. ALL SITE ACCESS PLANS SHOWN ON THE DRAWING ARE CONCEPTUAL, THE CONTRACTOR IS REQUIRED TO SUBMIT A DETAILED WORKING DRAWING SUBMISSION OUTLINING HIS SITE ACCESS PLAN IN ACCORDANCE WITH THE REQUIREMENTS IN THE SPECIAL PROVISION "CONSTRUCTION ACCESS".
2. DURING ALL CONSTRUCTION WORK, THE CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS TO ENSURE THAT ALL WORK AT THE SITE IS PERFORMED IN A SAFE MANNER.
3. ALL SITE WORK SHALL BE DONE IN ACCORDANCE WITH THE SPECIAL PROVISIONS "CONSTRUCTION ACCESS"
4. THE CONTRACTOR SHALL MAINTAIN SAFE ACCESS TO THE SITE FOR DELIVERIES AND ALL OTHER OPERATIONS INVOLVING TRAFFIC INTO AND OUT OF THE SITE.
5. THE CONTRACTOR SHALL HAVE A PLAN TO MAINTAIN ADEQUATE DRAINAGE AT THE SITE. DRAINAGE SHALL BE CHanneled AWAY FROM THE SITE TO AN UNUSED LOCATION. SHEET FLOW DRAINAGE FROM MERRITT PARKWAY SHALL NOT BE IMPEDED AT ANY TIME.
6. FILLING IN OF WETLANDS OR OTHER WORK IN DESIGNATED WETLANDS, EXCEPT AS SHOWN HEREIN WILL NOT BE ALLOWED.
7. ONCE ALL CONSTRUCTION WORK IS COMPLETE, THE CONTRACTOR SHALL RESTORE THE SITE TO ORIGINAL CONDITIONS.
8. TRAFFIC CLOSURES ON MERRITT PARKWAY SHALL BE IN ACCORDANCE WITH THE MAINTENANCE AND PROTECTION OF TRAFFIC PLANS AND IN ACCORDANCE WITH THE SPECIAL PROVISIONS.

				THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.		DESIGNER/DRAFTER: <b>NRA</b> CHECKED BY: <b>JG</b>  SCALE AS NOTED	 <b>STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION</b>  Filename: ...\\SB_MSH_158-207_STAGING.dgn	SIGNATURE/ BLOCK:   STATE OF CONNECTICUT JAMES H. GILBERT REGISTERED PROFESSIONAL ENGINEER	GM2 ASSOCIATES, INC. 115 GLASTONBURY BLVD GLASTONBURY, CT 06033	PROJECT TITLE: <b>REHABILITATION OF BRIDGE 00728 MERRITT PARKWAY OVER SAUGATUCK RIVER</b>	TOWN: <b>WESTPORT</b>	PROJECT NO. <b>158-207</b>
						DRAWING TITLE: <b>SUGGESTED STAGING &amp; WATER HANDLING PLAN</b>					SHEET NO. <b>S-08</b> <b>05.03.08</b>	
REV.	DATE	REVISION DESCRIPTION				SHEET NO.	Plotted Date: 7/6/2016					





NOTES:

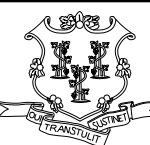
- UPPER LEVEL PLATFORM CABLES SHALL BE CONNECTED TO FLOOR BEAMS ONLY. ANY KNEE BRACKETS OR STRUTS REQUIRED FOR UPPER LEVEL PLATFORM SHALL BE CONNECTED TO SUPPORT COLUMNS OR ARCH RIBS. LOCATION AND DETAILS OF THE CONNECTIONS SHALL BE SHOWN ON THE SHOP DRAWINGS FOR APPROVAL.
- LOWER LEVEL PLATFORM CABLES SHALL BE CONNECTED TO THE ARCH RIBS, AT COLUMN LOCATIONS ONLY AND TO THE STRUTS AS REQUIRED. LOCATION AND DETAILS OF THE CONNECTIONS SHALL BE SHOWN ON THE SHOP DRAWINGS FOR APPROVAL.
- ANY TEMPORARY CRANES OR HOISTS NEEDED TO TRANSPORT MATERIALS OR EQUIPMENT TO REPAIR WORK LOCATIONS SHALL BE SUPPORTED BY BEAMS CONNECTED TO THE FLOOR BEAMS. LOCATION AND DETAILS OF THE CONNECTIONS SHALL BE SHOWN ON THE SHOP DRAWINGS FOR APPROVAL.
- NO EXISTING STRUCTURAL MEMBERS SHALL BE DAMAGED, REMOVED OR OTHERWISE COMPROMISED DURING INSTALLATION USE AND REMOVAL OF THE TEMPORARY PLATFORMS.

REV.	DATE	REVISION DESCRIPTION	SHEET NO.

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.


Plotted Date: 7/6/2016

DESIGNER/DRAFTER:  
**AGK**  
CHECKED BY:  
**TPL**  
SCALE AS NOTED




**STATE OF CONNECTICUT**  
**DEPARTMENT OF TRANSPORTATION**

Filename: ...\\SB\_MSH\_158-207\_TEMP\_PLATFORM.dgn



SIGNATURE/  
BLOCK:



GM2 ASSOCIATES, INC.  
115 GLASTONBURY BLVD.  
GLASTONBURY, CT 06033

PROJECT TITLE:  
**REHABILITATION OF BRIDGE 00728**  
**MERRITT PARKWAY**  
**OVER SAUGATUCK RIVER**

TOWN:  
**WESTPORT**

DRAWING TITLE:  
**SUGGESTED TEMPORARY**  
**ACCESS PLATFORM**

PROJECT NO.  
**158-207**

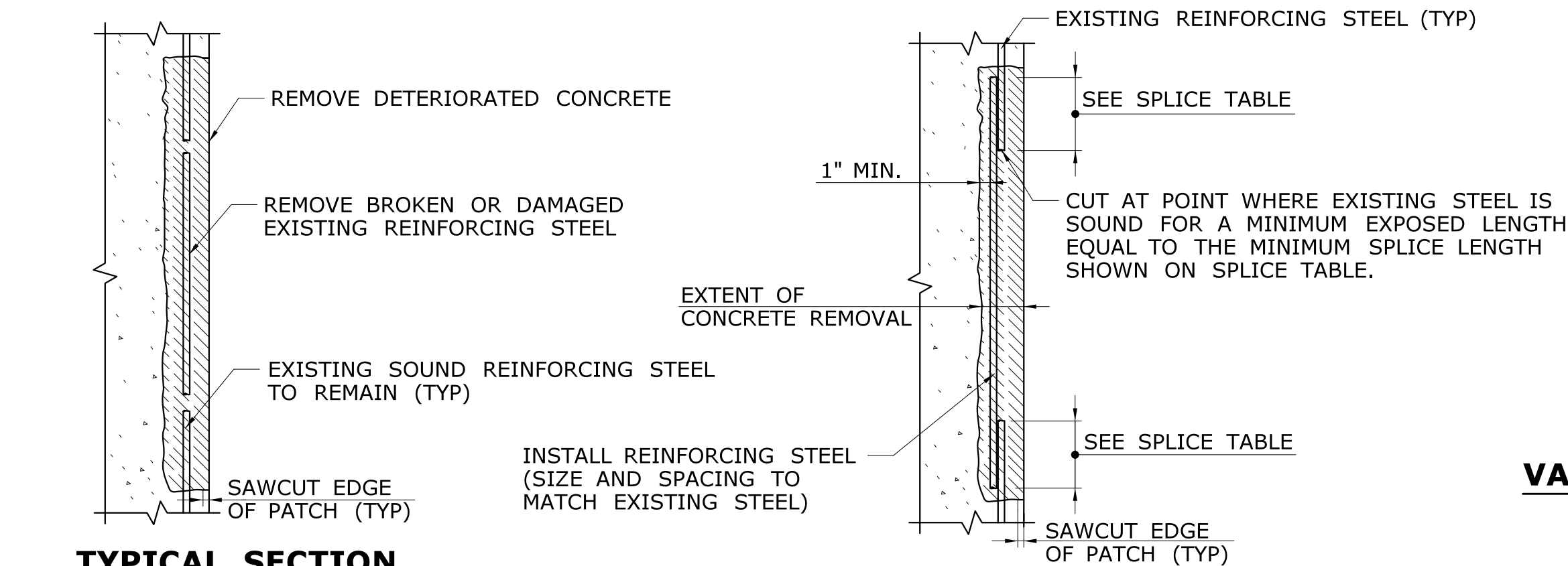
DRAWING NO.  
**S-09**

SHEET NO.  
**05.03.09**



TABLE OF SPLICE LENGTHS		
	BAR SIZE	MIN. SPLICE LENGTH
REINFORCEMENT SPACING @ $\geq 6"$ O.C. **	#4	1'-7"
	#5	2'-0"
	#6	2'-4"
	#7	2'-9"
	#8	3'-2"

\*\* FOR BARS SPACED "LESS THAN" 6" O.C. \*\*  
MULTIPLY TABLE VALUES BY 1.25

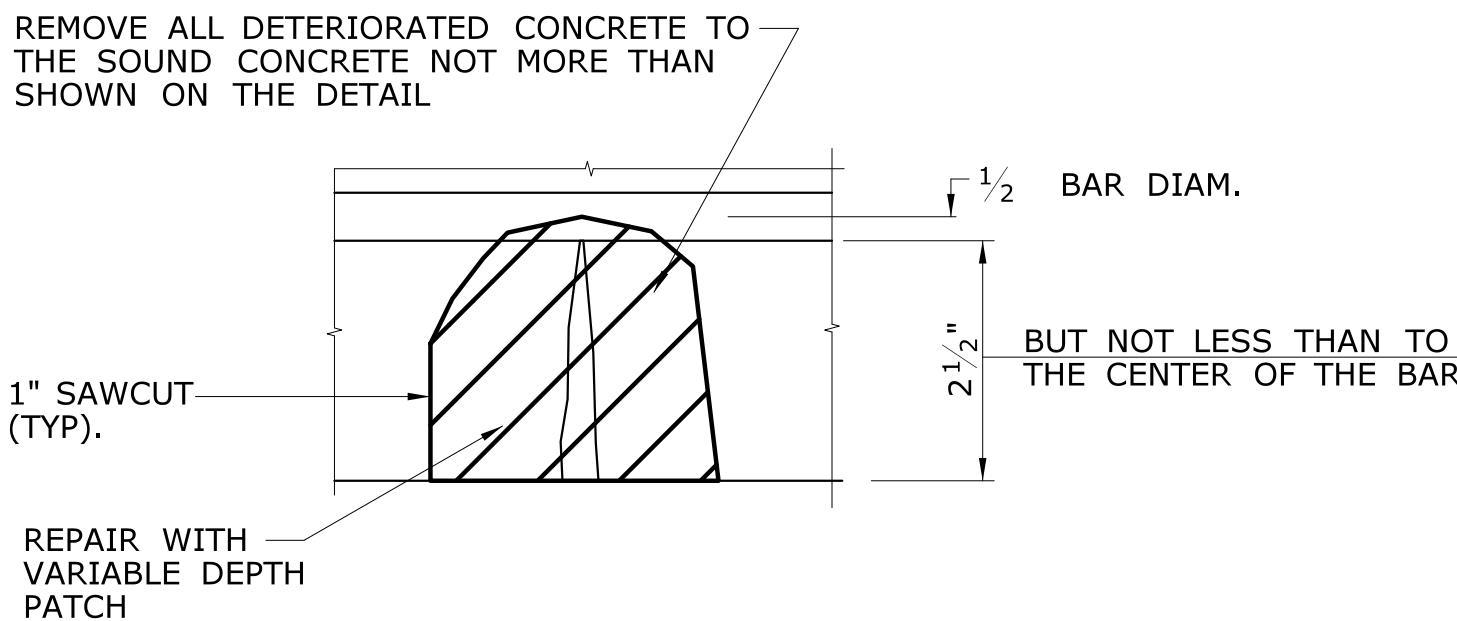


**TYPICAL SECTION  
DAMAGED REINFORCING**

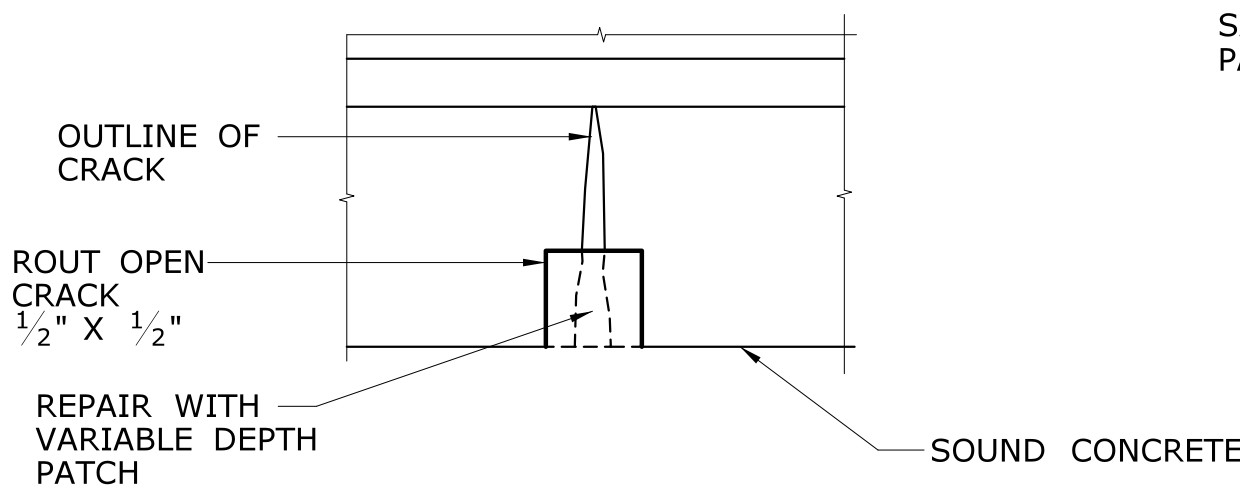
**TYPICAL SPLICE DETAIL**

**REINFORCING REPAIR DETAIL**

NOT TO SCALE



**CRACK WITH DETERIORATED CONCRETE**

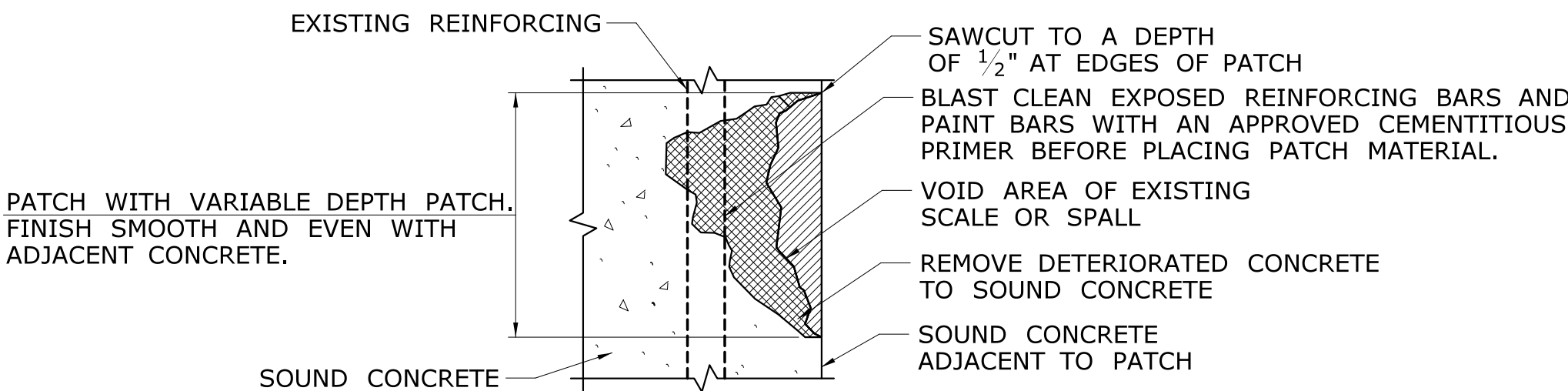


**CRACK WITH SOUND CONCRETE**

NOTE: PERPENDICULAR SECTION THROUGH CRACK SHOWN

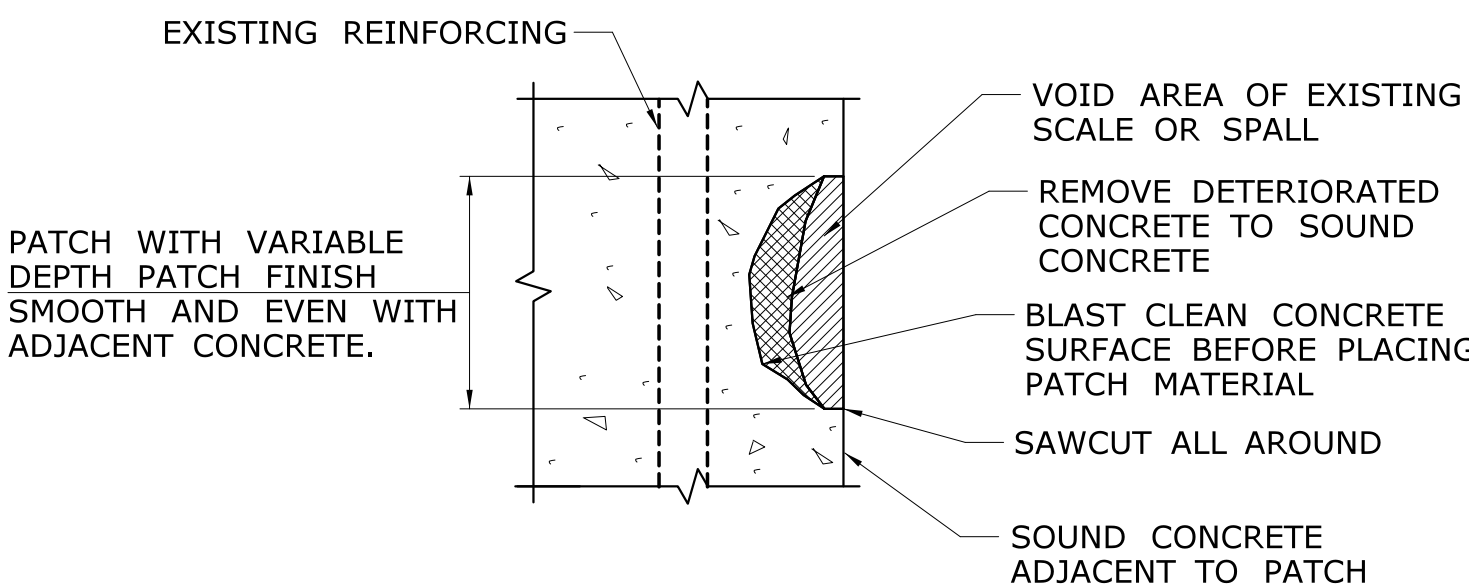
**TYPICAL CRACK REPAIR (WIDTH  $> \frac{1}{4}"$ )**

NOT TO SCALE



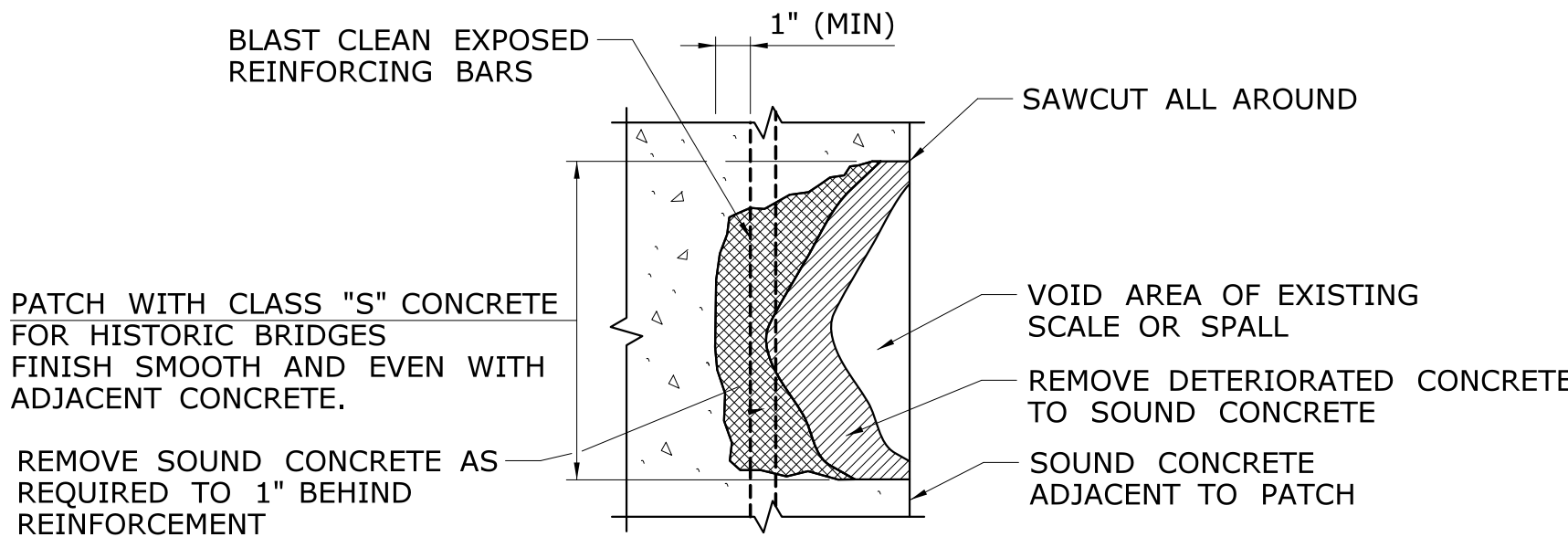
**VARIABLE DEPTH PATCH FOR HISTORIC BRIDGES TYPE REPAIRS  
(REINFORCING PARTIALLY EXPOSED)**

NOT TO SCALE



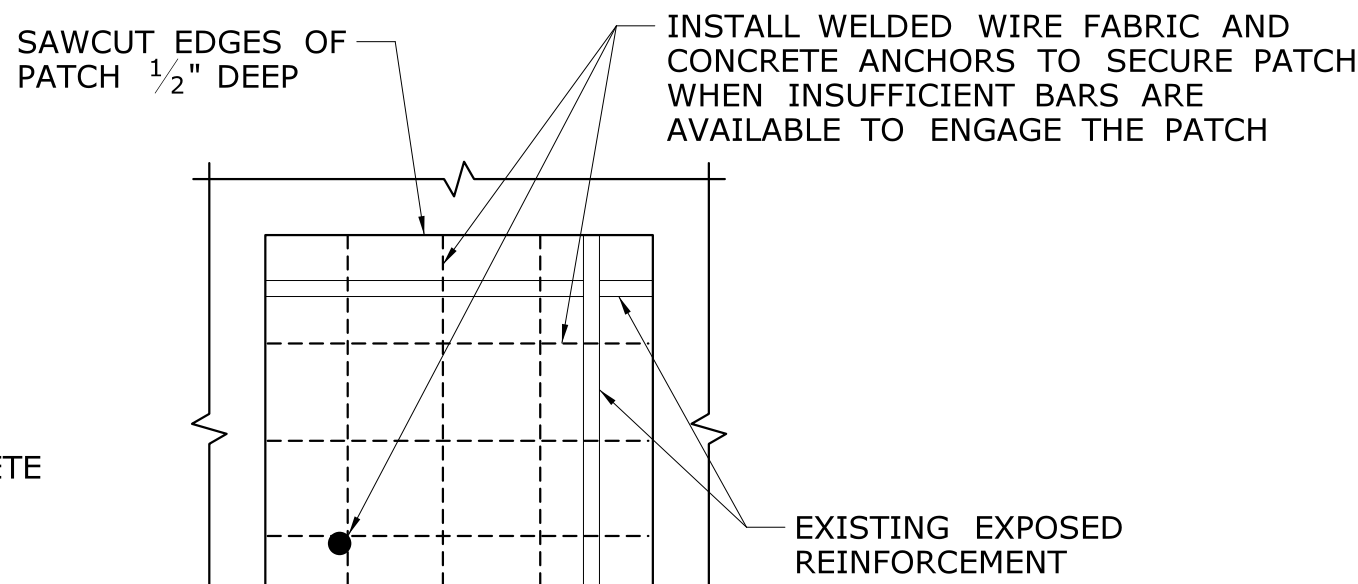
**VARIABLE DEPTH PATCH FOR HISTORIC BRIDGES TYPE REPAIRS  
(NO REINFORCING EXPOSED)**

NOT TO SCALE



**CLASS "S" CONCRETE FOR HISTORIC BRIDGES REPAIR**

NOT TO SCALE



**SECURING CLASS "S" PATCH  
WITH WELDED WIRE FABRIC**

NOT TO SCALE

**CONCRETE REPAIR NOTES:**

THE ENGINEER WILL DETERMINE THE LOCATIONS OF UNSOUND OR DETERIORATED CONCRETE TO BE REPAIRED. THE METHOD USED TO DELINEATE AREAS OF CONCRETE TO BE REPAIRED SHALL NOT PERMANENTLY MARK THE CONCRETE, LEAVE ANY RESIDUE AFTER REMOVAL, OR REQUIRE HARSH CHEMICALS TO REMOVE.

THE CONTRACTOR SHALL REMOVE THE DETERIORATED CONCRETE IN ACCORDANCE WITH THE GUIDELINES SET IN THESE NOTES AND IN THE SPECIAL PROVISIONS AND THE ENGINEER WILL DETERMINE THE TYPE OF REPAIR REQUIRED FOR EACH AREA.

THE CONTRACTOR SHALL SUPPLY WHATEVER MEANS NECESSARY, INCLUDING BUT NOT LIMITED TO LADDERS, LIFTS AND TRAFFIC PROTECTION FOR THE ENGINEER TO SAFELY ACCESS VARIOUS AREAS FOR INSPECTION. THE COST OF PROVIDING ACCESS FOR THE INSPECTION IS INCLUDED IN THE GENERAL COST OF THE PROJECT.

VARIABLE DEPTH PATCH AND CLASS "S" CONCRETE FOR HISTORIC BRIDGES REPAIR DETAILS ARE APPLICABLE TO VERTICAL CONCRETE SURFACES AND NOT TOP OF DECK OR HEADERS. THESE DETAILS ARE INCLUDED FOR REFERENCE ONLY AND SHALL BE USED ONLY AS DIRECTED BY THE ENGINEER.

PARTIAL DEPTH PATCH AND FULL DEPTH PATCH DETAILS SHOWN IN DRAWING S-23 SHALL BE USED FOR ALL DECK AND CONCRETE HEADER REPAIRS.

**CLASS "S" CONCRETE FOR HISTORIC BRIDGES (CLASS "S" TYPE)**

THIS TYPE OF REPAIR SHALL BE USED WHERE THE REINFORCING BARS ARE SUFFICIENTLY EXPOSED TO ENGAGE AND ANCHOR THE PATCHING MATERIAL. IF THERE IS NOT SUFFICIENT REINFORCEMENT AVAILABLE, THEN GALVANIZED MECHANICAL ANCHORS @ 6" O.C. (OR AS DIRECTED BY THE ENGINEER) SHALL BE INSTALLED INTO THE SOUND CONCRETE TO ENGAGE THE WELDED WIRE FABRIC. CLASS "S" CONCRETE FOR HISTORIC BRIDGES MAY BE USED FOR SMALLER AREAS LESS THAN FOUR SQUARE FEET WHERE THERE IS A SUFFICIENT TOTAL AREA TO JUSTIFY THE USE OF THIS MATERIAL AND WHERE THE PATCH CAN BE SECURELY ANCHORED BY THE REINFORCING.

OVERHEAD PATCHES SHALL BE A CLASS "S" TYPE UNLESS OTHERWISE DIRECTED BY THE ENGINEER AND SHALL BE ANCHORED SECURELY TO THE REINFORCING BARS.

BEFORE APPLYING THE PATCHING MATERIAL, THE REINFORCING BARS SHALL BE BLAST CLEANED AND EMBEDDED GALVANIC ANODES INSTALLED.

**REINFORCING BAR REPAIRS**

REINFORCING WHICH IS DETERMINED BY THE ENGINEER TO BE IN NEED OF REPLACEMENT, SHALL BE REMOVED TO A POINT WHERE IT IS SOUND. THE PATCH SHALL EXTEND A SUFFICIENT DISTANCE BEYOND THIS POINT TO DEVELOP A SPLICE LENGTH SPECIFIED IN THE TABLE ON THIS SHEET.

**EMBEDDED GALVANIC ANODES**

ANODES ARE TO BE INSTALLED IN "CLASS 'S' CONCRETE FOR HISTORIC BRIDGES" CONCRETE REPAIRS. THEIR PRIME PURPOSE IS TO PROTECT REINFORCING BARS THAT CROSS THE EDGES OF THE PATCH.

INSTALLATION OF ANODES SHALL BE AS DETAILED ON THIS PLAN AND PER THE RECOMMENDATIONS OF THE ANODE MANUFACTURER'S REPRESENTATIVE AND AS DIRECTED BY THE ENGINEER.

**RESTRICTIONS**

THE REMOVAL OF DETERIORATED CONCRETE SHALL PROCEED AS DIRECTED BY THE ENGINEER. IF THE REMOVAL OF DETERIORATED CONCRETE BECOMES EXCESSIVE, THE REMOVAL WORK SHALL BE STOPPED AT THAT LOCATION AND THE ENGINEER NOTIFIED IMMEDIATELY.

MAXIMUM HAMMER SIZE USED TO REMOVE DETERIORATED CONCRETE SHALL BE 15 POUNDS.

IF REMOVAL EXTENDS MORE THAN 1 1/2" BEHIND THE MAIN REINFORCING BARS, THE REMOVAL WORK SHALL BE STOPPED AND THE ENGINEER NOTIFIED IMMEDIATELY.

IF THE AREA OR DEPTH OF REMOVAL IS DEEMED TO BE EXCESSIVE, THE ENGINEER SHALL BE IMMEDIATELY NOTIFIED BEFORE CONTINUING REMOVAL WORK.

AT PIER COLUMNS AND CAPS, IF REMOVAL OF DETERIORATED CONCRETE EXTENDS INSIDE THE MAIN REINFORCING, REMOVAL SHALL BE LIMITED TO ONE FACE OF THE MEMBER AT A TIME AND A MAXIMUM AREA OF 4 S.F. REMOVAL MAY BE PERMITTED ON MORE THAN ONE FACE OF THE COLUMN SIMULTANEOUSLY IF THE AREAS OF REMOVAL ARE NOT ADJACENT TO OR DIRECTLY OPPOSITE ONE ANOTHER. IF REMOVAL EXTENDS MORE THAN 1 1/2" BEHIND THE MAIN REINFORCING BARS, THE REMOVAL WORK SHALL BE STOPPED AND THE ENGINEER NOTIFIED IMMEDIATELY.




BEFORE EXPOSING THE MAIN REINFORCING BARS OF MORE THAN ONE PIER COLUMN AT THE SAME TIME, THE ENGINEER SHALL BE CONSULTED.

AT THE PIER CAP, NO MORE THAN ONE THIRD OF THE UNDERSIDE OF THE CAP SHOULD BE REMOVED AT ONE TIME. IF THE ENTIRE UNDERSIDE OF THE CAP IS TO BE PATCHED, BEGIN AT THE COLUMN AND PATCH ONE-THIRD OF THE CLEAR SPAN OF THE CAP. AFTER THE PATCH HAS GAINED SUFFICIENT STRENGTH, BEGIN AT THE OPPOSITE END OF THE CAP AND PATCH ONE THIRD OF THE SPAN. THE MIDDLE THIRD SHOULD BE PATCHED LAST.

IF A SPLICE IS ENCOUNTERED DURING REMOVAL OF CONCRETE IN A PIER COLUMN OR CAP, WORK AT THAT LOCATION SHALL BE STOPPED AND THE ENGINEER SHALL BE NOTIFIED. WORK AT THAT LOCATION SHALL NOT PROCEED UNTIL DIRECTION IS GIVEN BY THE ENGINEER.

**PAY ITEM NOTES**

- ANODES SHALL BE PAID FOR UNDER THE ITEM "EMBEDDED GALVANIC ANODES".
- THE 1/2" DEEP SAW CUT SHALL BE INCLUDED IN THE CONTRACT BID PRICE OF THE APPLICABLE REPAIR PAY ITEM.
- REINFORCING BARS WILL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR "DEFORMED STEEL BARS".



				DESIGNER/DRAFTER: <b>AB</b>		 <b>STATE OF CONNECTICUT</b> <b>DEPARTMENT OF TRANSPORTATION</b>	 SIGNATURE/ BLOCK: 	GM2 ASSOCIATES, INC. 115 GLASTONBURY BLVD. GLASTONBURY, CT 06033	PROJECT TITLE:  <b>REHABILITATION OF BRIDGE 00728 MERRITT PARKWAY OVER SAUGATUCK RIVER</b>	TOWN:  <b>WESTPORT</b>	PROJECT NO. <b>158-207</b>						
				CHECKED BY: <b>JG</b>													
				SCALE AS NOTED													
REV.	DATE	REVISION DESCRIPTION	SHEET NO.	Plotted Date: 7/6/2016		Filename: ...\\SB_MSH_158-207_CONCRETE.REP.1.dgn				DRAWING TITLE: <b>CONCRETE REPAIR DETAILS (1 OF 2)</b>							



1. ANODES ARE TO BE INSTALLED IN "PARTIAL DEPTH PATCH" AND "FULL DEPTH PATCH (EARLY HIGH STRENGTH CONCRETE)" REPAIRS AND IN CURB RECONSTRUCTION. THEIR PRIME PURPOSE IS TO PROTECT REINFORCING BARS BEYOND THE EDGES OF THE PATCH OR THE CONCRETE REMOVAL LIMITS.
2. INSTALLATION OF ANODES SHALL BE AS DETAILED ON THIS PLAN AND PER THE RECOMMENDATIONS OF THE ANODE MANUFACTURER'S REPRESENTATIVE AND AS DIRECTED BY THE ENGINEER.
3. PLACE ANODES SUCH THAT THEY HAVE 2" CONCRETE COVER.





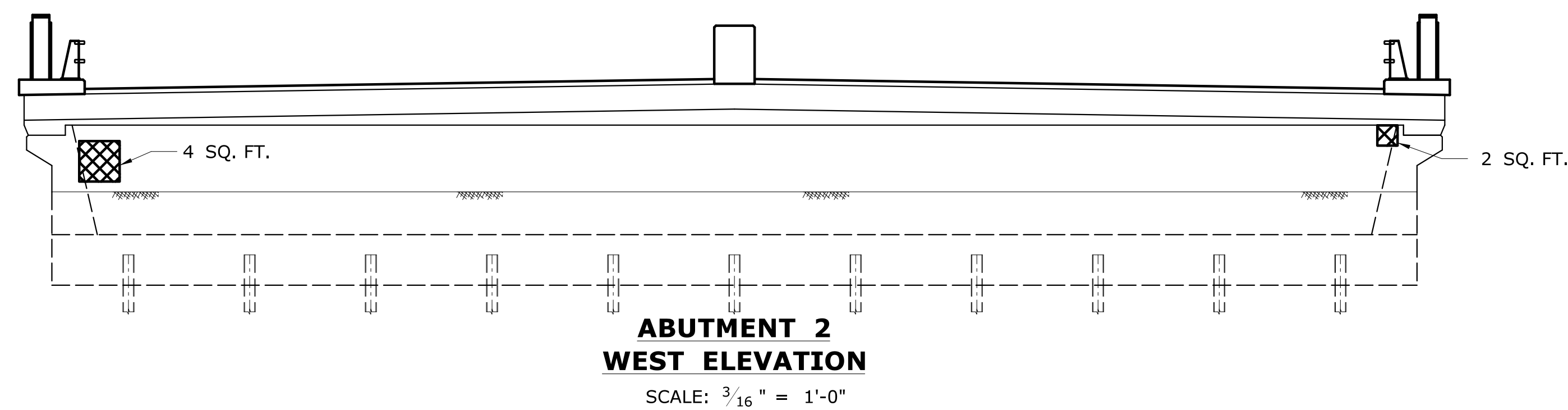
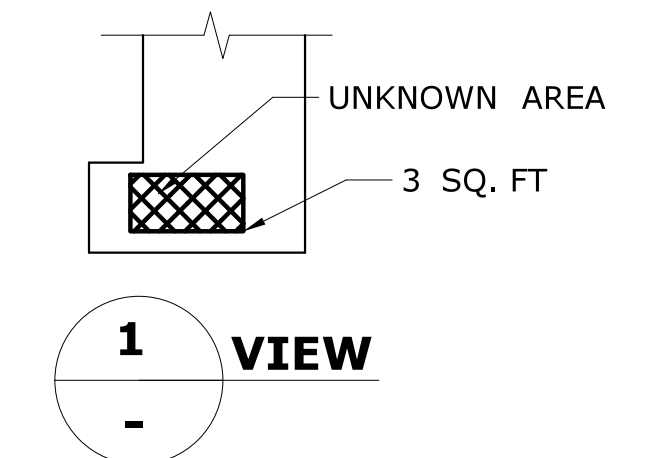
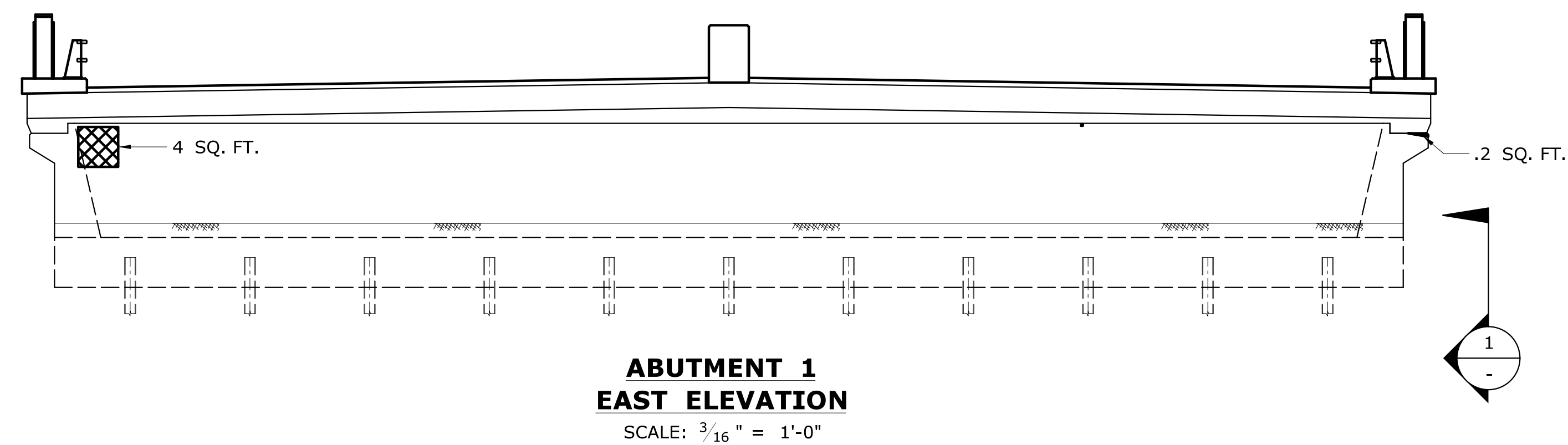
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				THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.		DESIGNER/DRAFTER: <b>AB</b>				PROJECT TITLE: <b>REHABILITATION OF BRIDGE 00728 MERRITT PARKWAY OVER SAUGATUCK RIVER</b>		TOWN: <b>WESTPORT</b>		PROJECT NO. <b>158-207</b>	
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REV.    DATE    REVISION DESCRIPTION    SHEET NO.				Plotted Date: 7/6/2016											



### LEGEND OF ANTICIPATED CONCRETE REPAIRS



-  VARIABLE DEPTH PATCH FOR HISTORIC CONCRETE BRIDGES
-  PATCH WITH CLASS "S" CONCRETE FOR HISTORIC BRIDGES

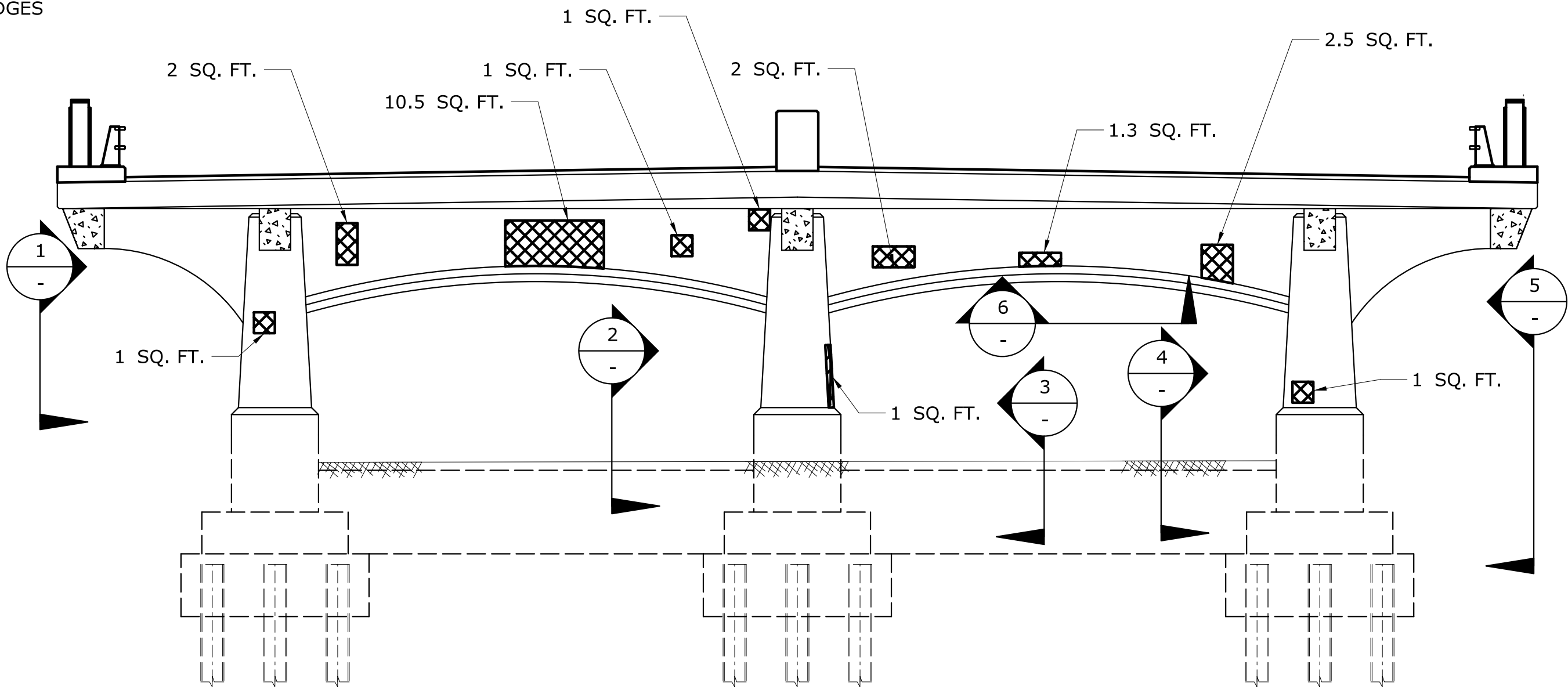


				DESIGNER/DRAFTER: <b>AB</b>	 STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION	SIGNATURE/ BLOCK:	GM2 ASSOCIATES, INC. 115 GLASTONBURY BLVD. GLASTONBURY, CT 06033	PROJECT TITLE:	<b>REHABILITATION OF BRIDGE 00728 MERRITT PARKWAY OVER SAUGATUCK RIVER</b>	TOWN:	<b>WESTPORT</b>	DRAWING NO.	<b>158-207</b>
				CHECKED BY: <b>JG</b>		SCALE AS NOTED				DRAWING TITLE:	<b>ABUTMENT 1 AND 2 REPAIRS</b>	SHEET NO.	<b>S-12</b>
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REV.	DATE	REVISION DESCRIPTION	SHEET NO.	The INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.									
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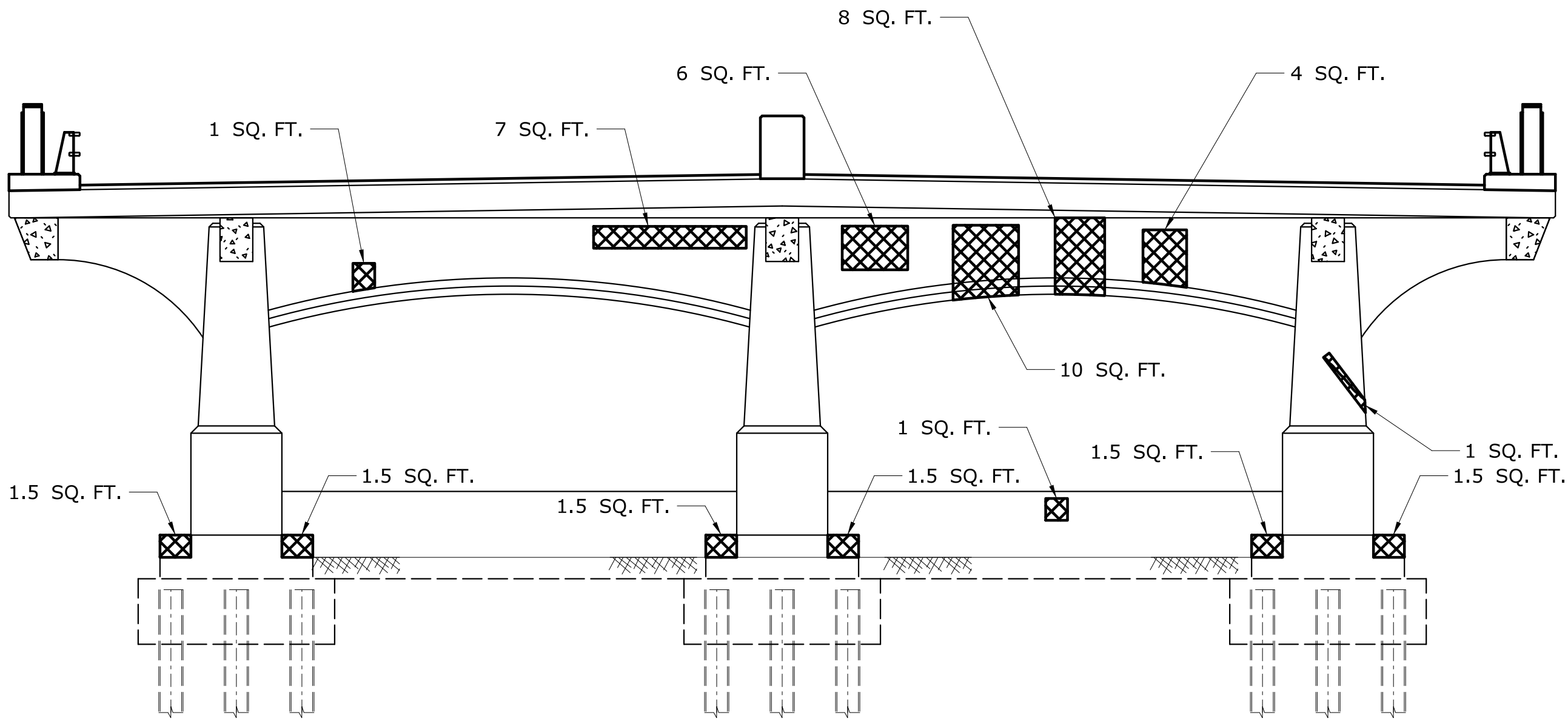


LEGEND OF ANTICIPATED  
CONCRETE REPAIRS

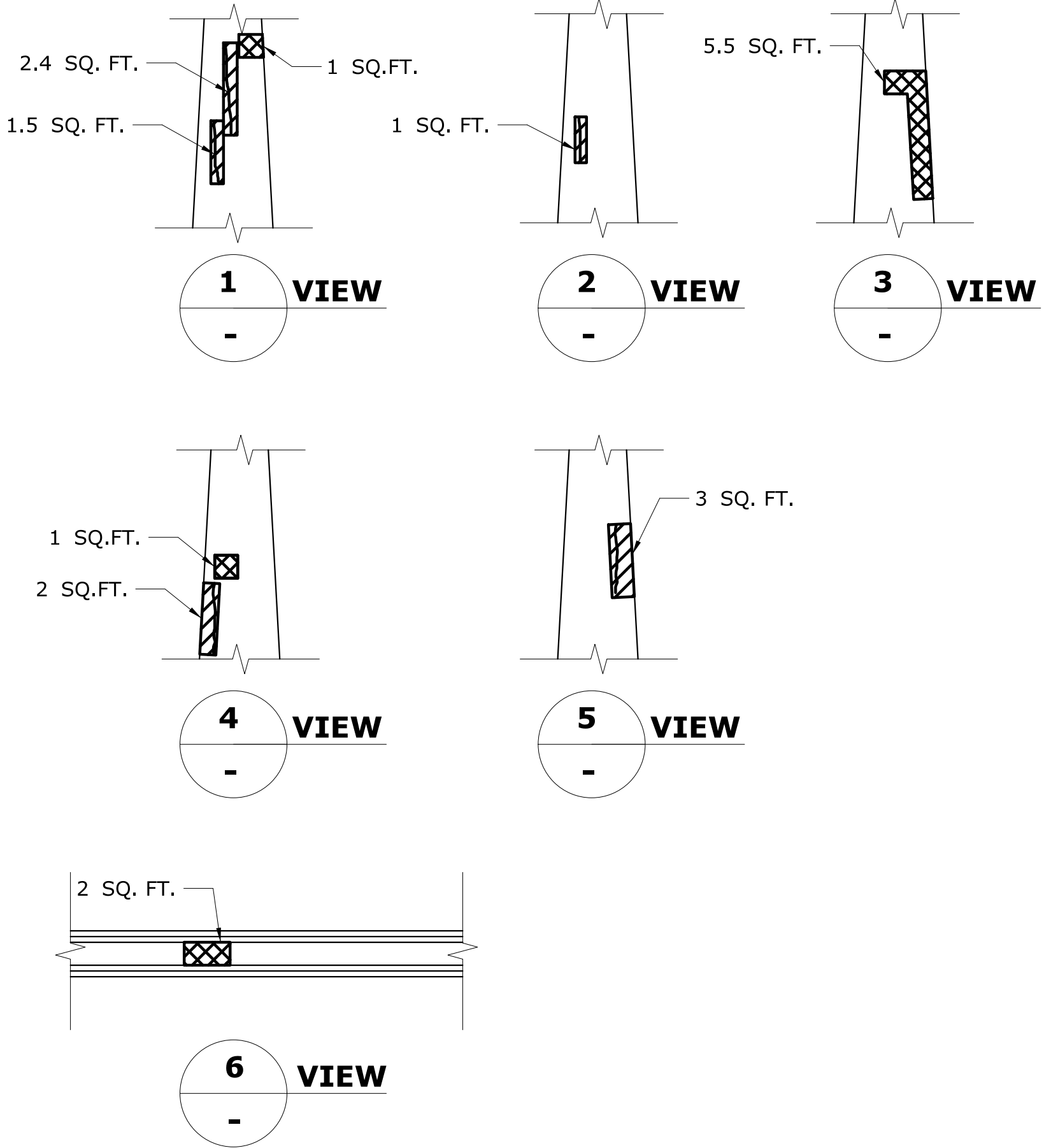
-  VARIABLE DEPTH PATCH FOR HISTORIC CONCRETE BRIDGES
-  PATCH WITH CLASS "S" CONCRETE FOR HISTORIC BRIDGES



WEST ELEVATION  
PIER 1  
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EAST ELEVATION  
PIER 1  
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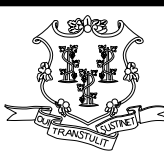



REV.	DATE	REVISION DESCRIPTION	SHEET NO.

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Plotted Date: 7/6/2016

DESIGNER/DRAFTER:  
**AB**  
CHECKED BY:  
**JG**  
SCALE AS NOTED

**STATE OF CONNECTICUT**  
**DEPARTMENT OF TRANSPORTATION**



Filename: ...\\SB\_MSH\_158-207\_PIER\_1.REP.dgn

SIGNATURE/  
BLOCK:  


GM2 ASSOCIATES, INC.  
115 GLASTONBURY BLVD.  
GLASTONBURY, CT 06033



PROJECT TITLE:  
**REHABILITATION OF BRIDGE 00728  
MERRITT PARKWAY  
OVER SAUGATUCK RIVER**

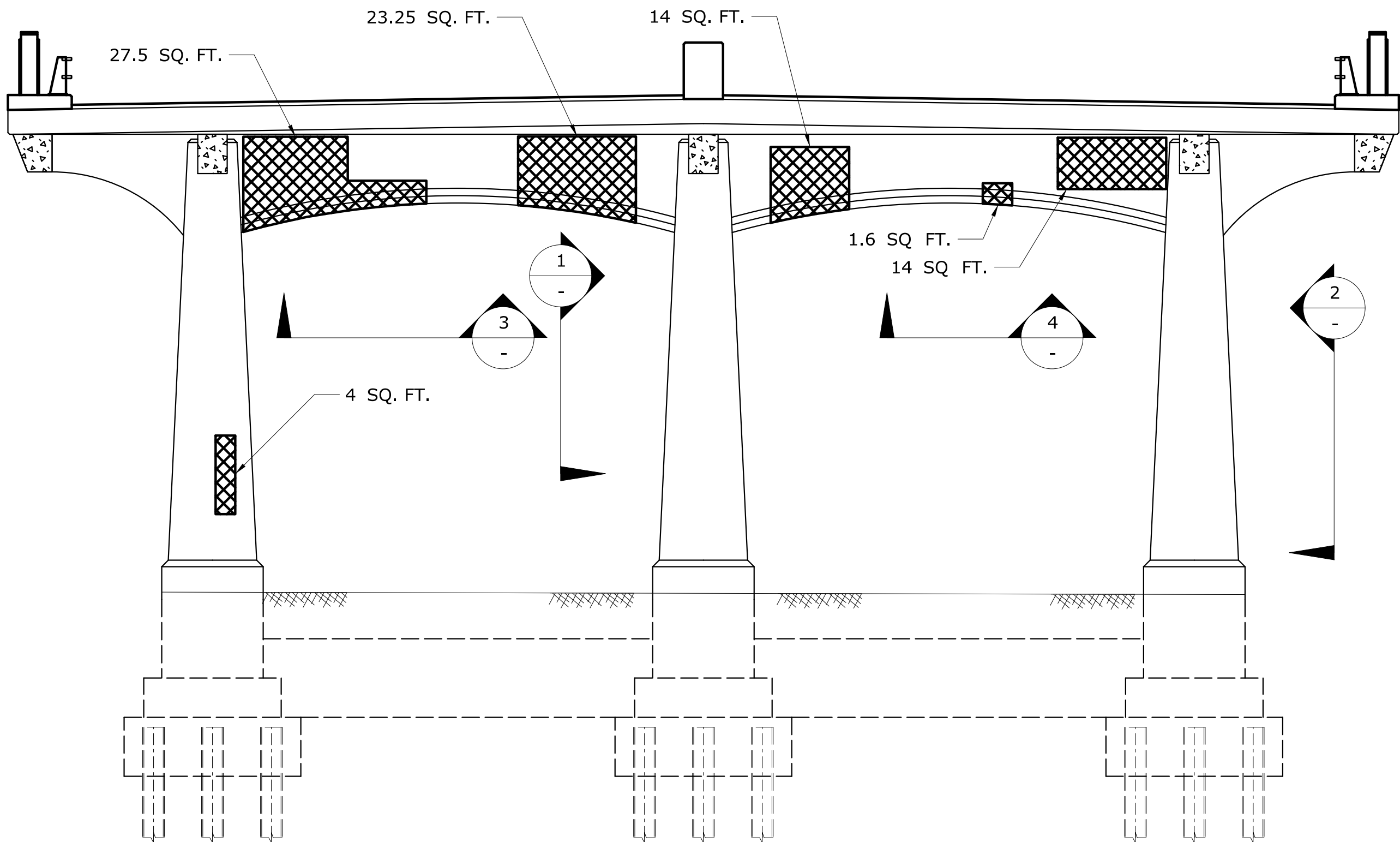
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**WESTPORT**  
DRAWING TITLE:  
**PIER 1 REPAIRS**

PROJECT NO.  
**158-207**  
DRAWING NO.  
**S-13**  
SHEET NO.  
**05.03.13**



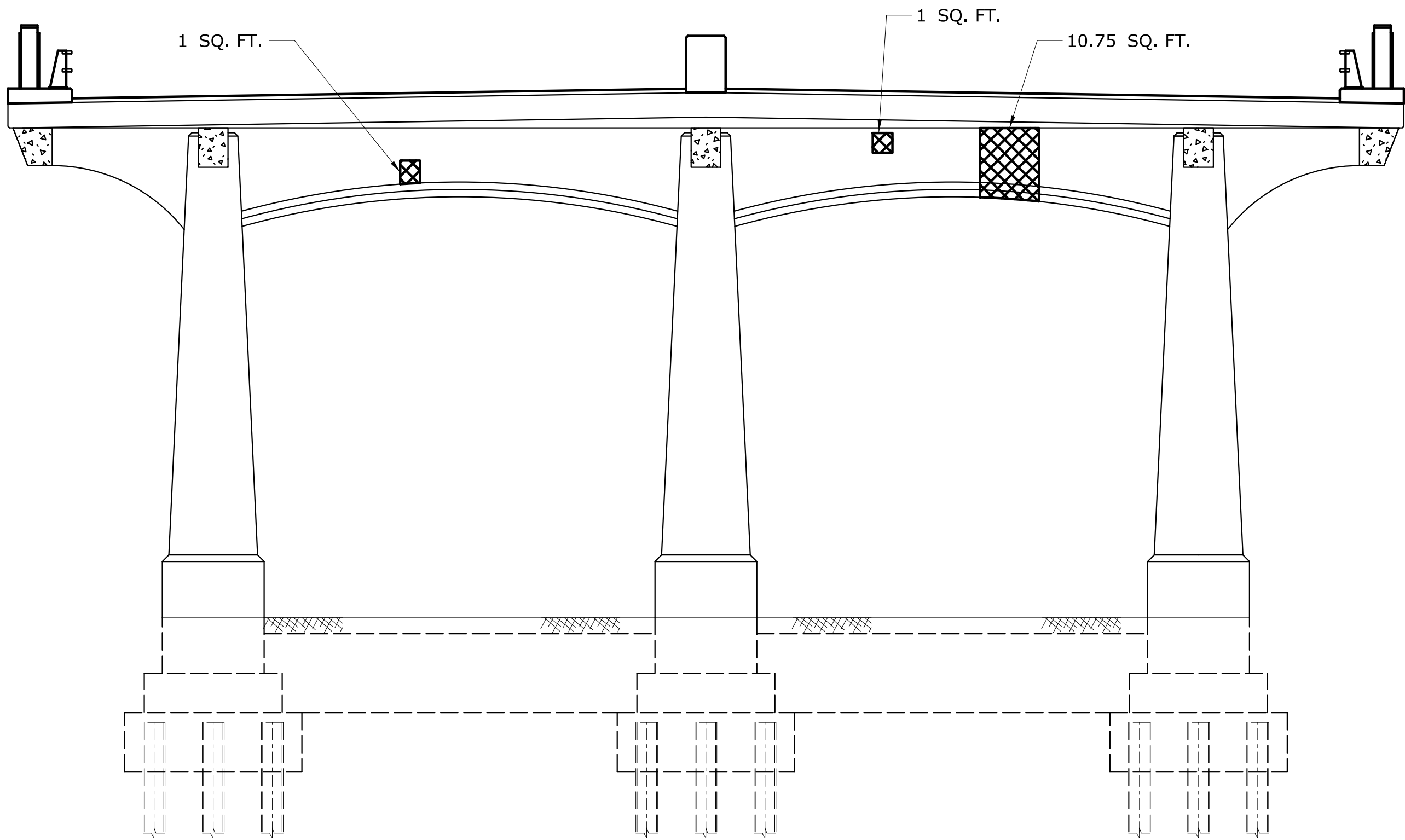
LEGEND OF ANTICIPATED  
CONCRETE REPAIRS

-  VARIABLE DEPTH PATCH FOR HISTORIC CONCRETE BRIDGES
-  PATCH WITH CLASS "S" CONCRETE FOR HISTORIC BRIDGES



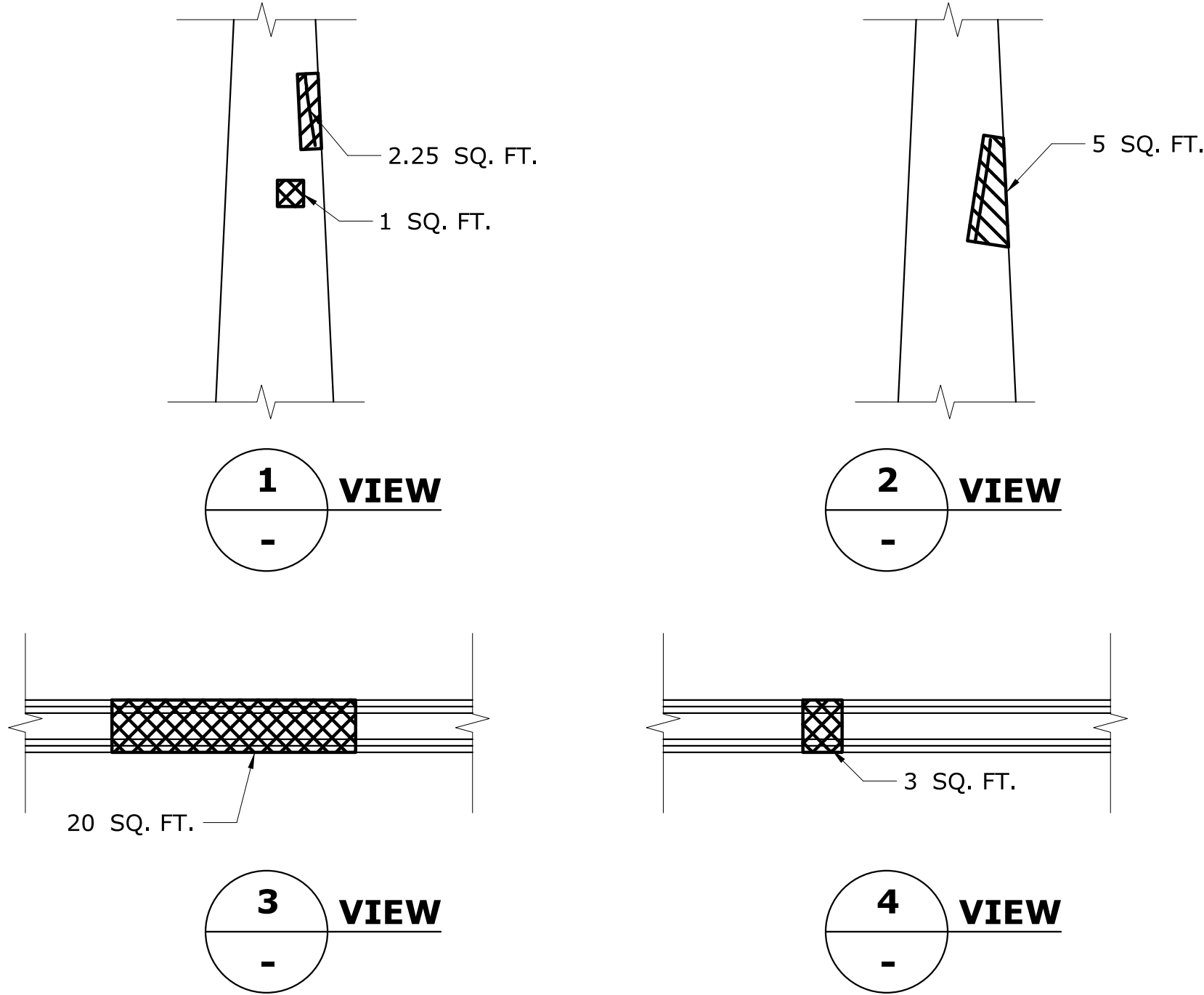
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PIER 2

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EAST ELEVATION  
PIER 2

SCALE:  $\frac{3}{16}$ " = 1'-0"



REV.	DATE	REVISION DESCRIPTION	SHEET NO.


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DESIGNER/DRAFTER:  
**AB**

CHECKED BY:  
**JG**

SCALE AS NOTED

**STATE OF CONNECTICUT**  
**DEPARTMENT OF TRANSPORTATION**

Filename: ...\\SB\_MSH\_158-207\_PIER\_2.REP..dgn

SIGNATURE/  
BLOCK:



GM2 ASSOCIATES, INC.  
115 GLASTONBURY BLVD.  
GLASTONBURY, CT 06033

PROJECT TITLE:  
**REHABILITATION OF BRIDGE 00728**  
**MERRITT PARKWAY**  
**OVER SAUGATUCK RIVER**

TOWN:  
**WESTPORT**

DRAWING TITLE:  
**PIER 2 REPAIRS**



PROJECT NO.  
**158-207**

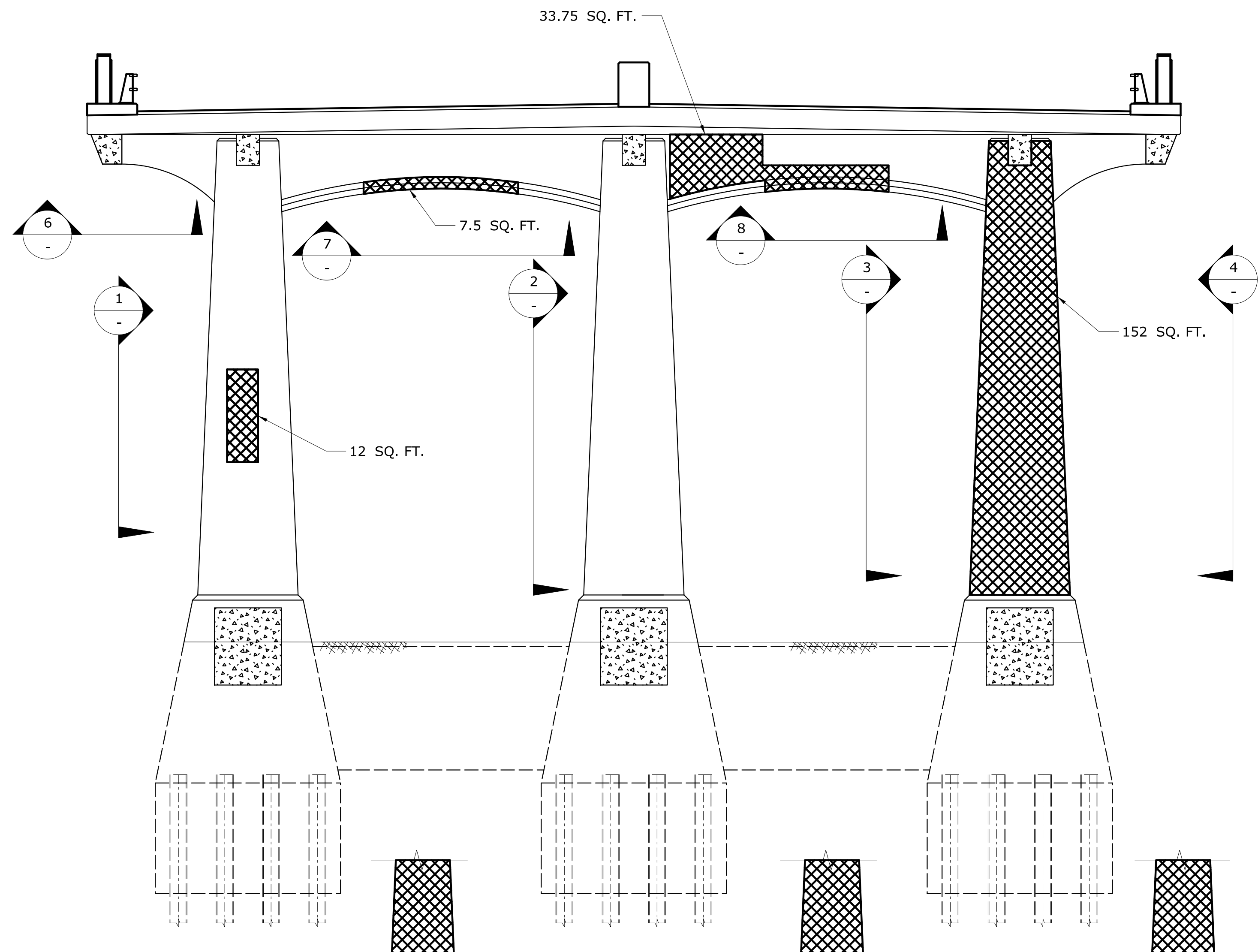
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**S-14**

SHEET NO.  
**05.03.14**



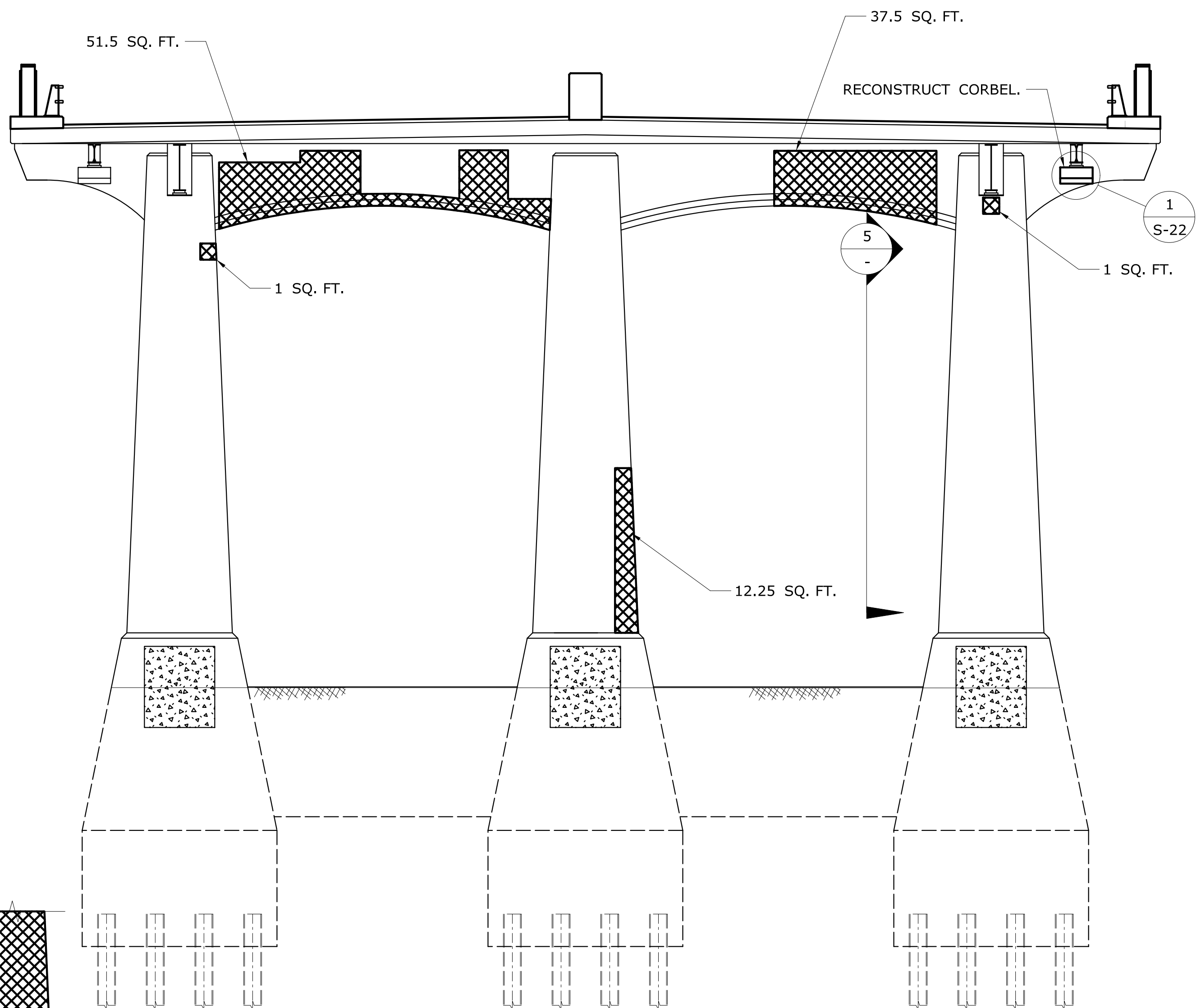
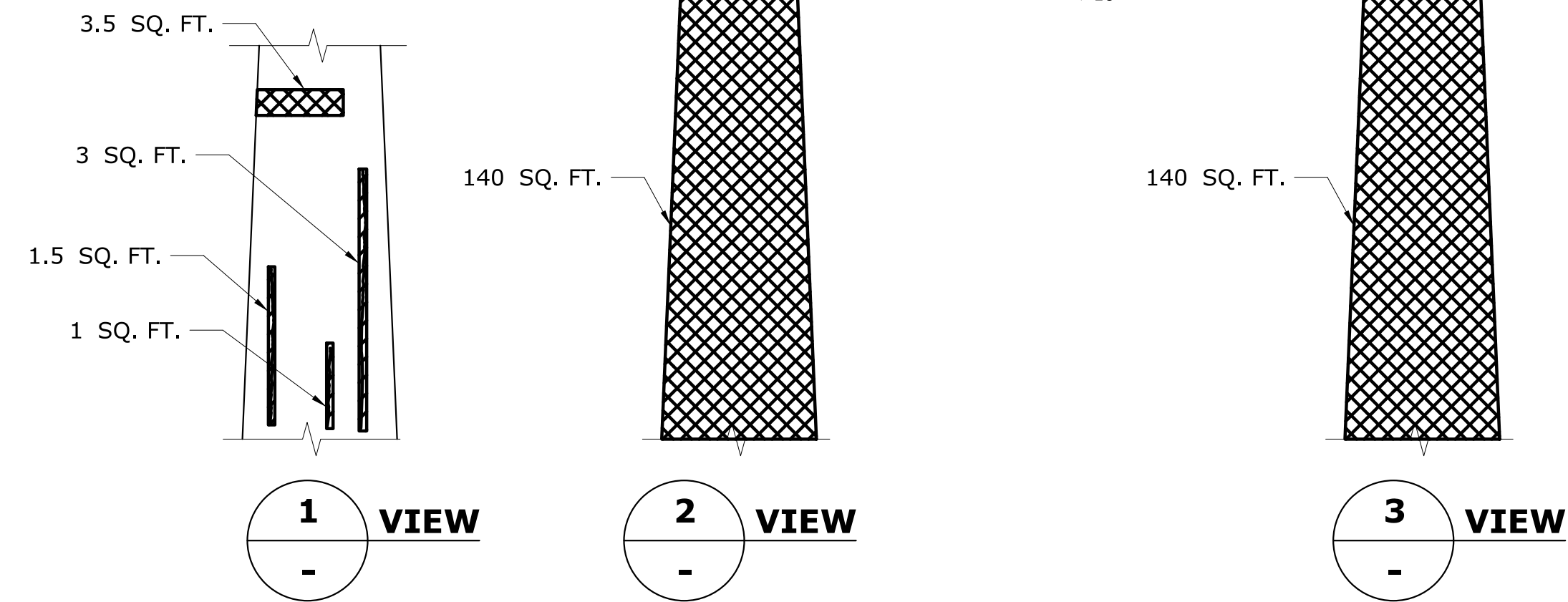
**LEGEND OF ANTICIPATED  
CONCRETE REPAIRS**

-  VARIABLE DEPTH PATCH FOR HISTORIC CONCRETE BRIDGES  
 PATCH WITH CLASS "S" CONCRETE FOR HISTORIC BRIDGES



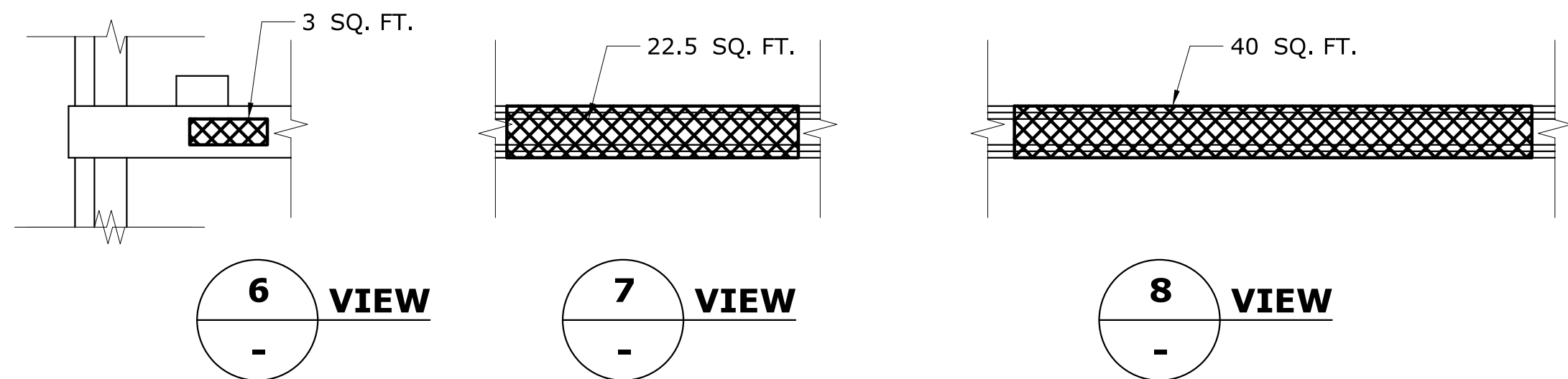
**WEST ELEVATION  
PIER 3**

SCALE:  $\frac{3}{16}$ " = 1'-0"



**EAST ELEVATION  
PIER 3**

SCALE:  $\frac{3}{16}$ " = 1'-0"

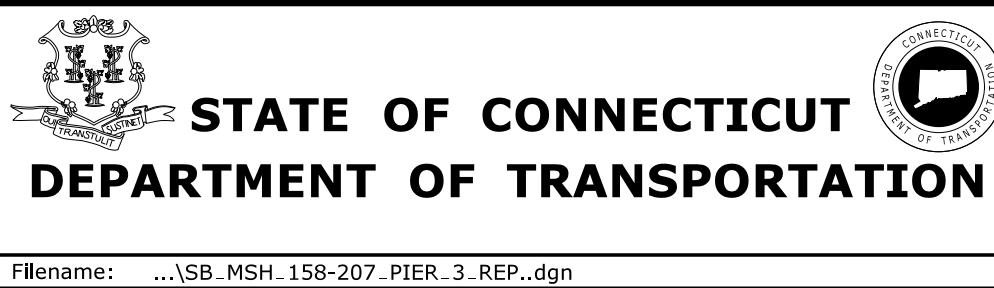


REV.	DATE	REVISION DESCRIPTION	SHEET NO.

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 7/6/2016

DESIGNER/DRAFTER:  
**AB**  
CHECKED BY:  
**JG**  
SCALE AS NOTED



SIGNATURE/  
BLOCK:

GM2 ASSOCIATES, INC.  
115 GLASTONBURY BLVD.  
GLASTONBURY, CT 06033



PROJECT TITLE:  
**REHABILITATION OF BRIDGE 00728  
MERRITT PARKWAY  
OVER SAUGATUCK RIVER**

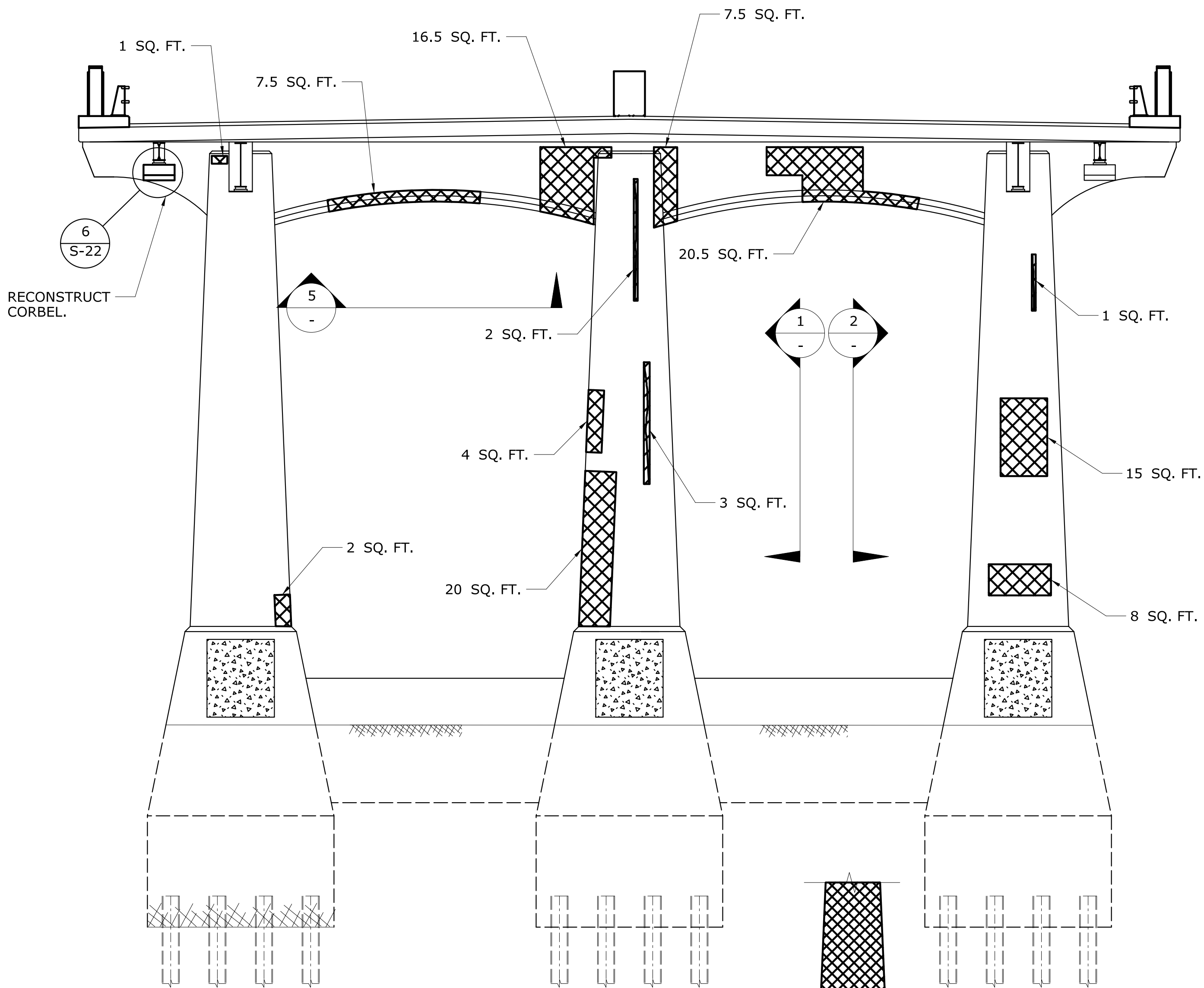
TOWN:  
**WESTPORT**  
DRAWING TITLE:  
**PIER 3 REPAIRS**

PROJECT NO.  
**158-207**  
DRAWING NO.  
**S-15**  
SHEET NO.  
**05.03.15**



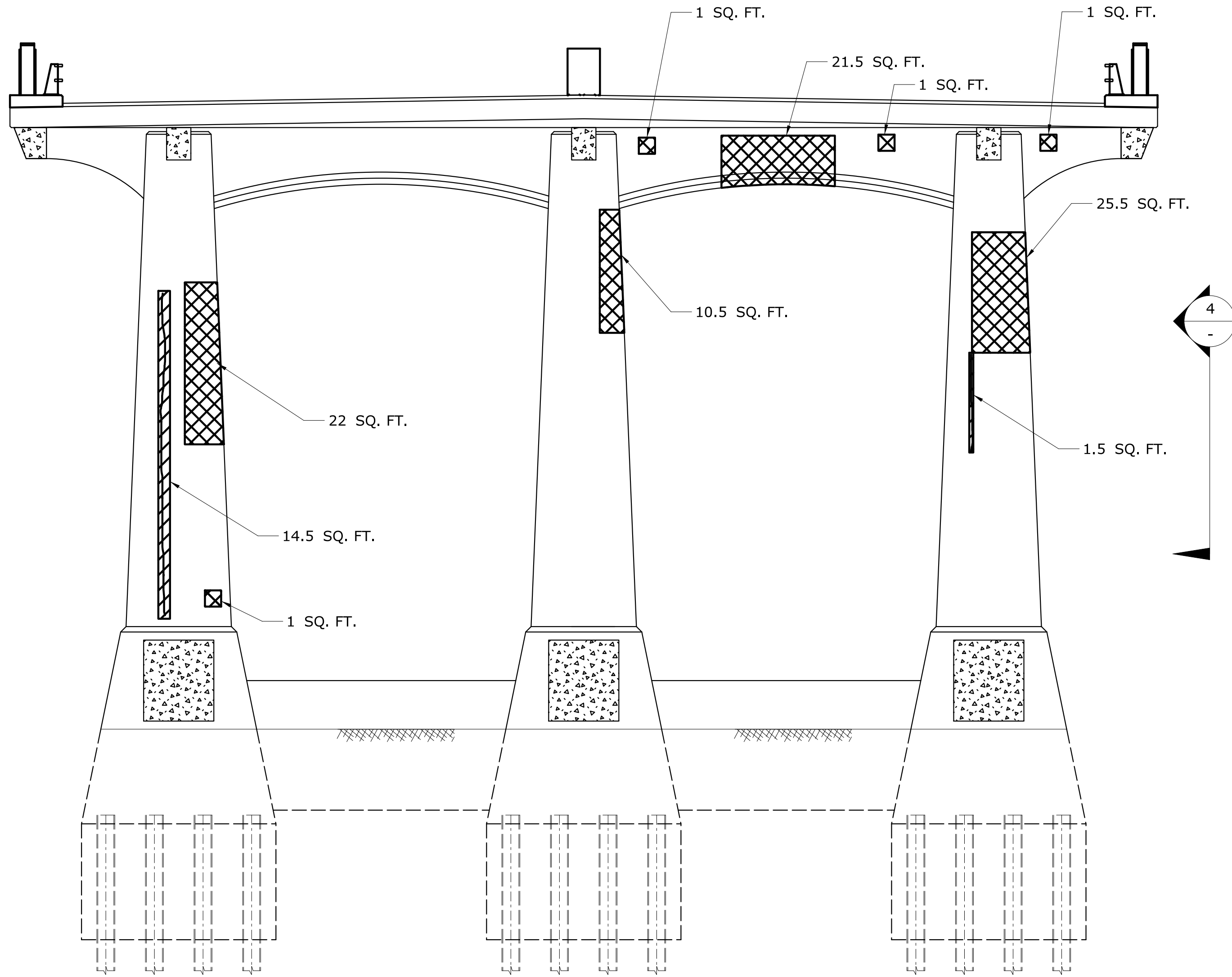
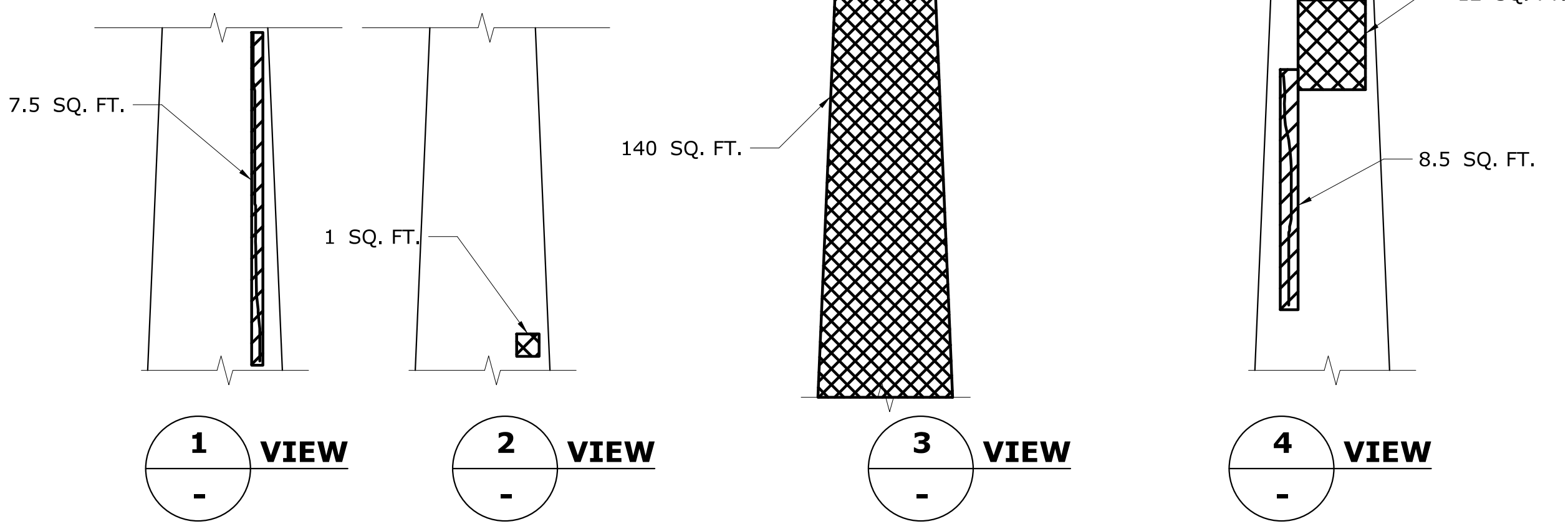
**LEGEND OF ANTICIPATED  
CONCRETE REPAIRS**

-  VARIABLE DEPTH PATCH FOR HISTORIC CONCRETE BRIDGES  
 PATCH WITH CLASS "S" CONCRETE FOR HISTORIC BRIDGES



**WEST ELEVATION  
PIER 4**

SCALE:  $\frac{3}{16}$ " = 1'-0"



**EAST ELEVATION  
PIER 4**

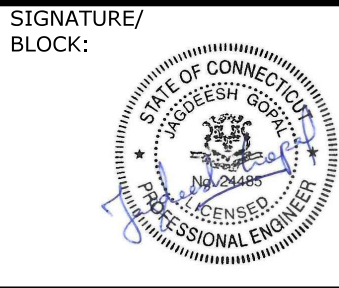
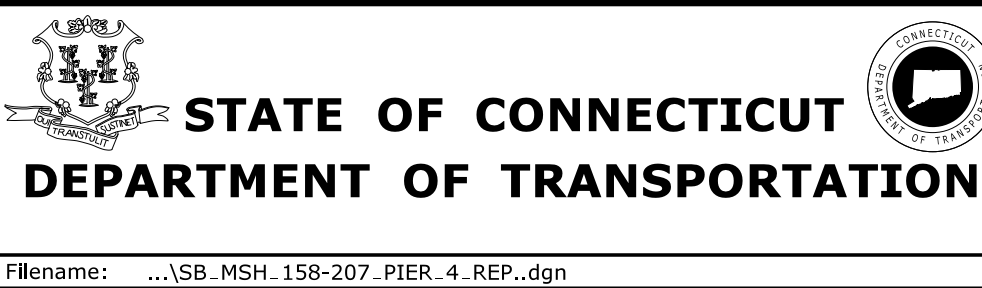
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REV.	DATE	REVISION DESCRIPTION	SHEET NO.

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Plotted Date: 7/6/2016

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SCALE AS NOTED



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115 GLASTONBURY BLVD.  
GLASTONBURY, CT 06033



PROJECT TITLE:  
**REHABILITATION OF BRIDGE 00728  
MERRITT PARKWAY  
OVER SAUGATUCK RIVER**

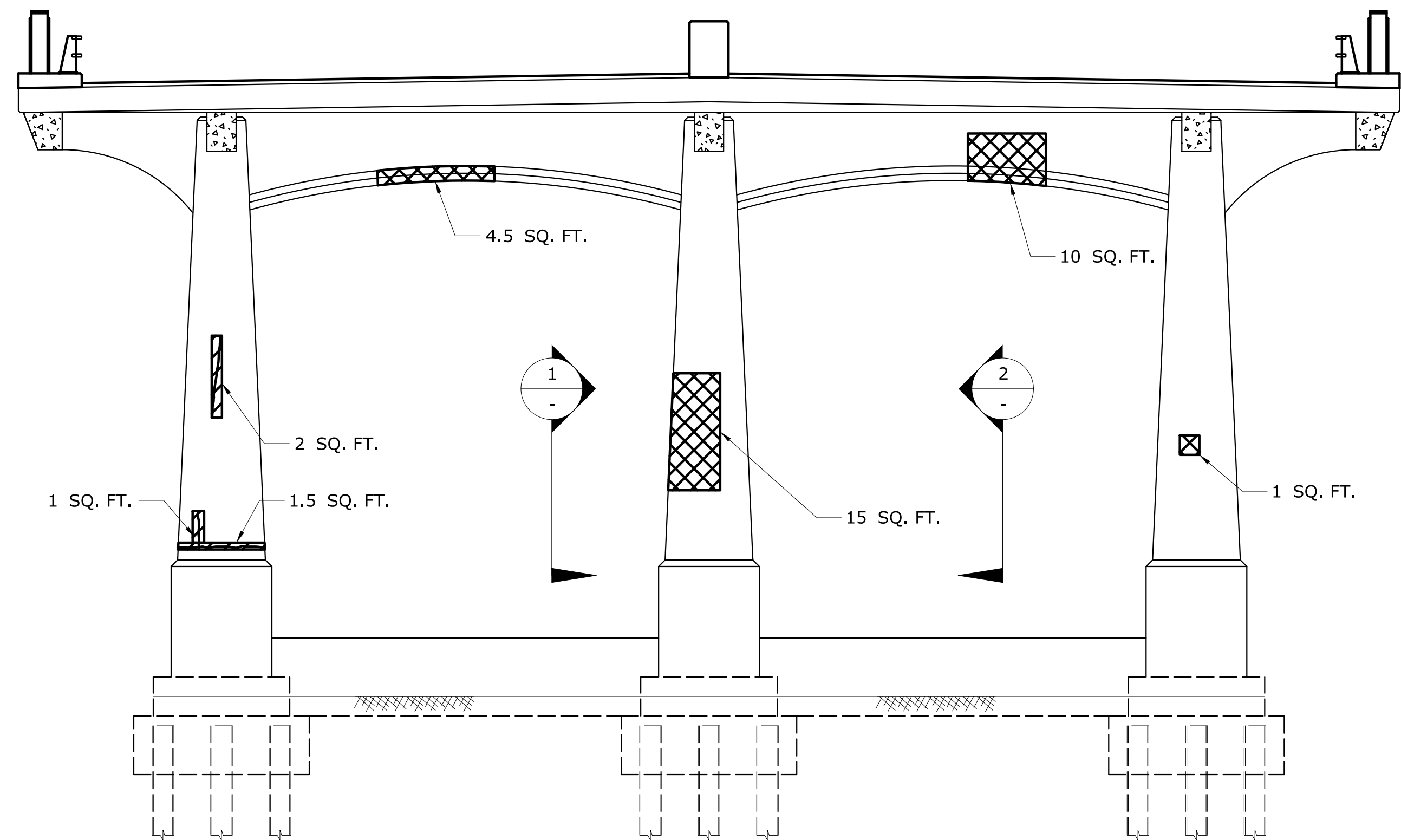
TOWN:  
**WESTPORT**  
DRAWING TITLE:  
**PIER 4 REPAIRS**

PROJECT NO.  
**158-207**  
DRAWING NO.  
**S-16**  
SHEET NO.  
**05.03.16**



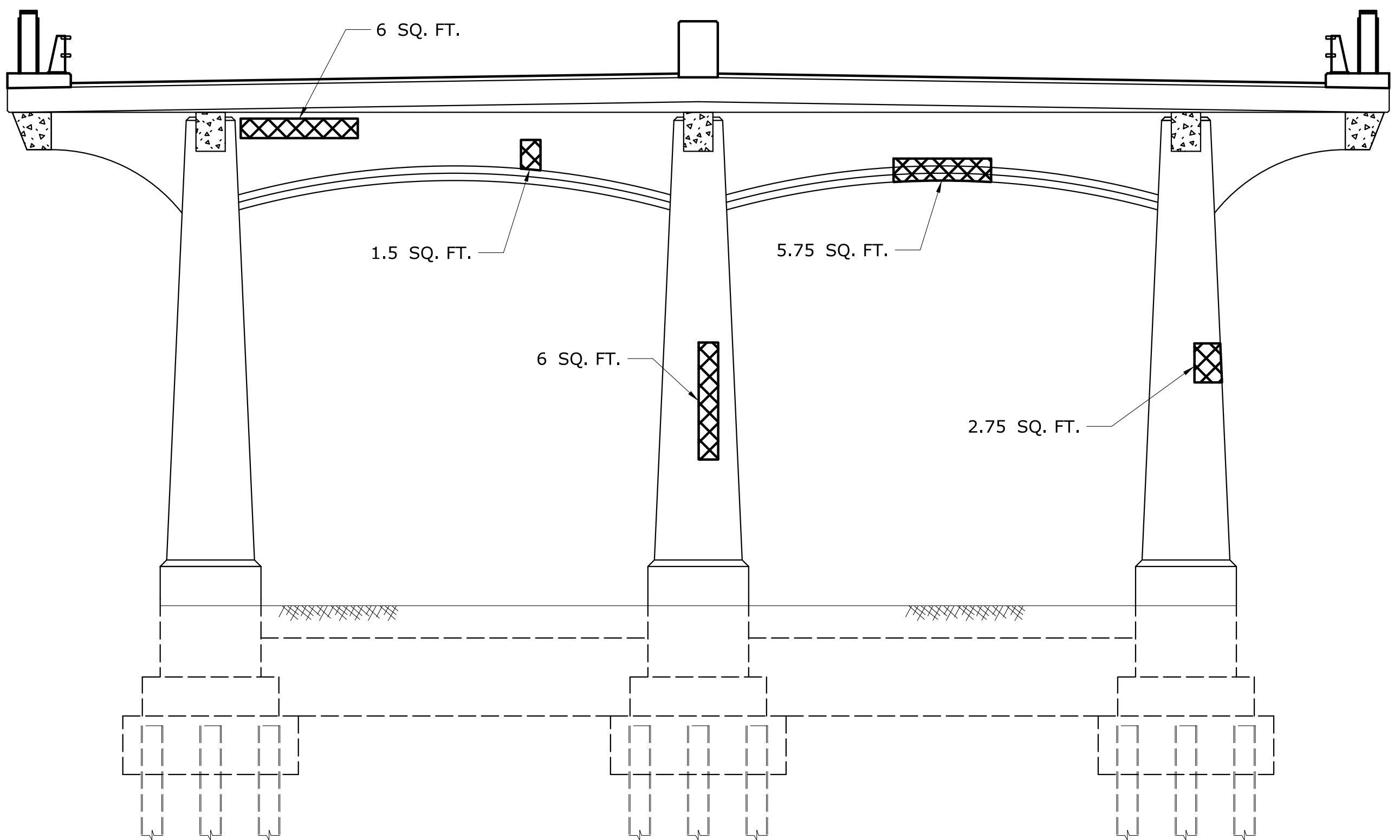
LEGEND OF ANTICIPATED  
CONCRETE REPAIRS

-  VARIABLE DEPTH PATCH FOR HISTORIC CONCRETE BRIDGES
-  PATCH WITH CLASS "S" CONCRETE FOR HISTORIC BRIDGES



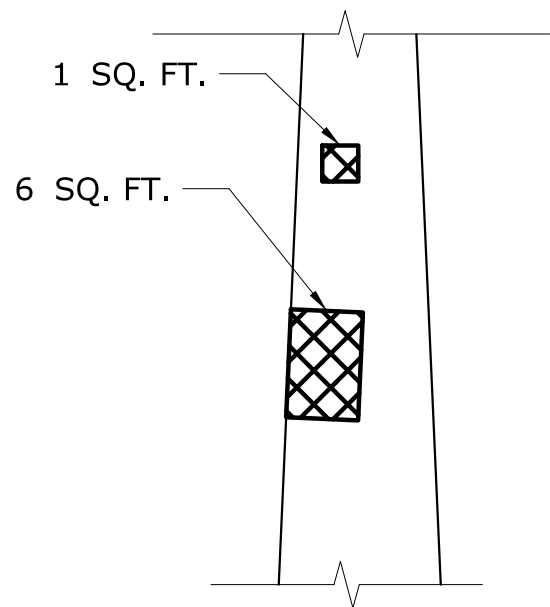
**WEST ELEVATION  
PIER 5**

SCALE:  $\frac{3}{16}$ " = 1'-0"

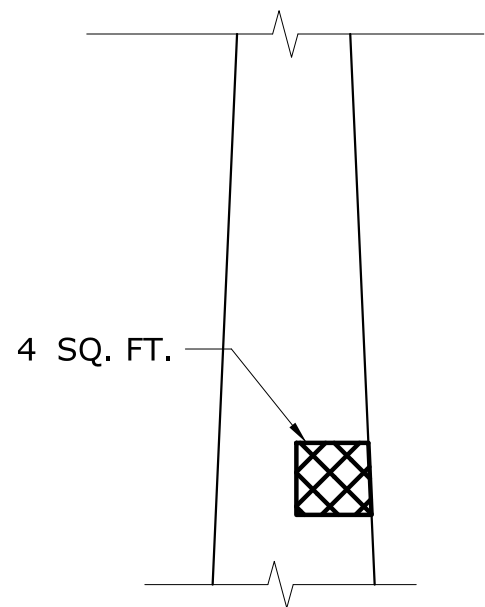


**EAST ELEVATION  
PIER 5**

SCALE:  $\frac{3}{16}$ " = 1'-0"



**1  
-  
VIEW**



**2  
-  
VIEW**

REV.	DATE	REVISION DESCRIPTION	SHEET NO.


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Plotted Date: 7/6/2016

DESIGNER/DRAFTER:  
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SCALE AS NOTED



**STATE OF CONNECTICUT  
DEPARTMENT OF TRANSPORTATION**

Filename: ...\\SB\_MSH\_158-207\_PIER\_5\_REP.dgn



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BLOCK:



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115 GLASTONBURY BLVD.  
GLASTONBURY, CT 06033

PROJECT TITLE:  
**REHABILITATION OF BRIDGE 00728  
MERRITT PARKWAY  
OVER SAUGATUCK RIVER**

TOWN:  
**WESTPORT**

DRAWING TITLE:  
**PIER 5 REPAIRS**

PROJECT NO.  
**158-207**

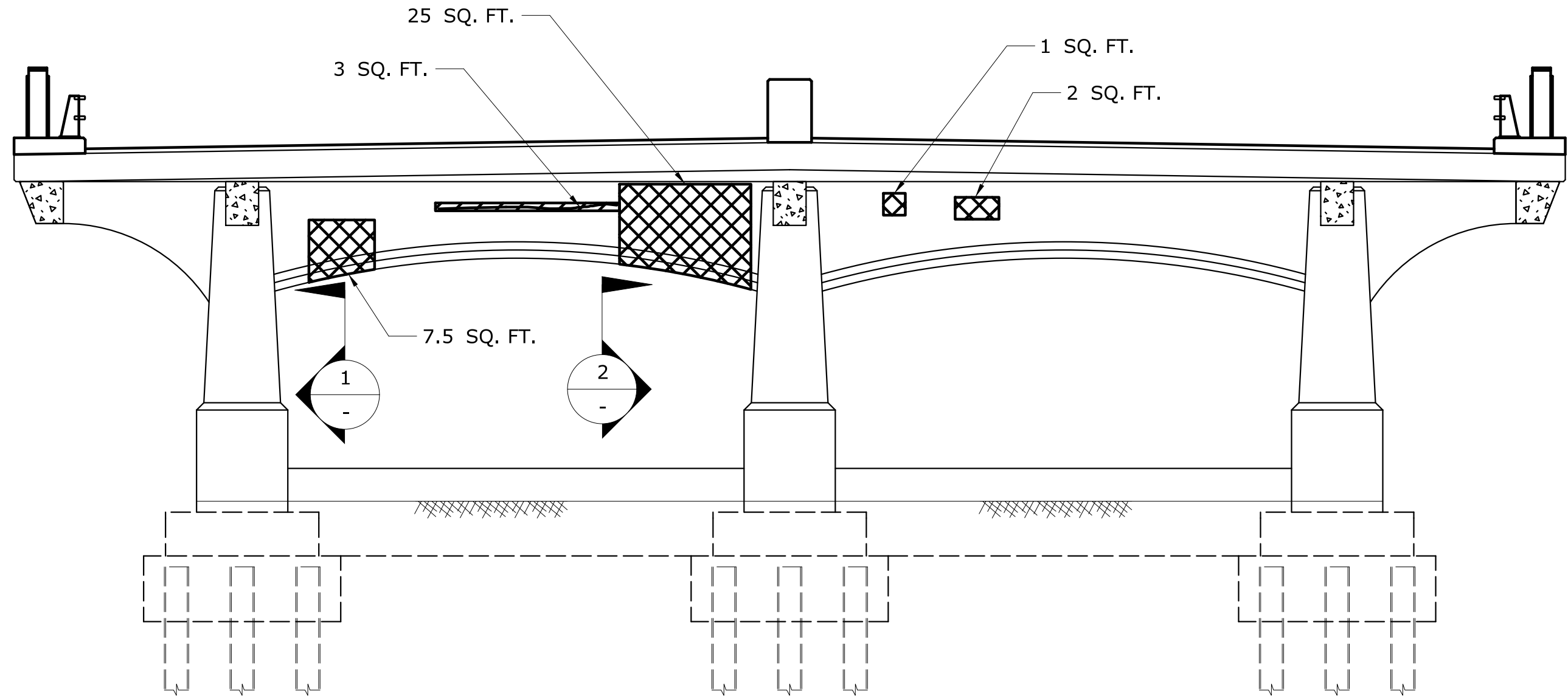
DRAWING NO.  
**S-17**

SHEET NO.  
**05.03.17**



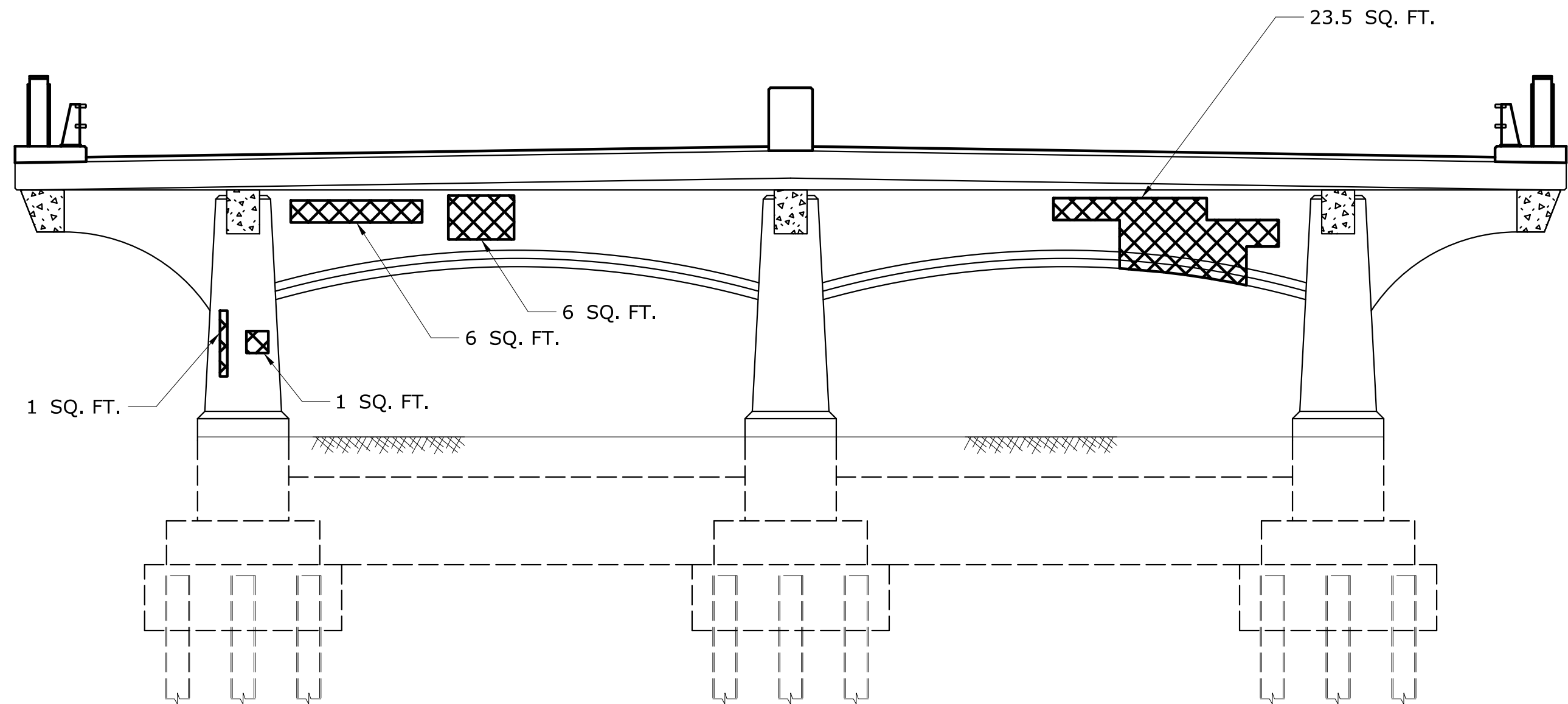
LEGEND OF ANTICIPATED  
CONCRETE REPAIRS

- VARIABLE DEPTH PATCH FOR HISTORIC CONCRETE BRIDGES
- PATCH WITH CLASS "S" CONCRETE FOR HISTORIC BRIDGES



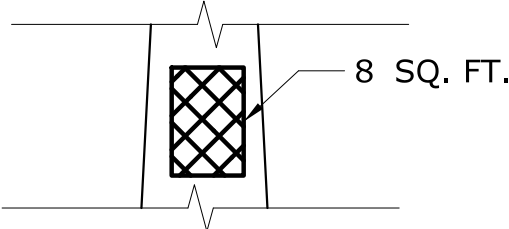
WEST ELEVATION  
PIER 6

SCALE: 3/16" = 1'-0"

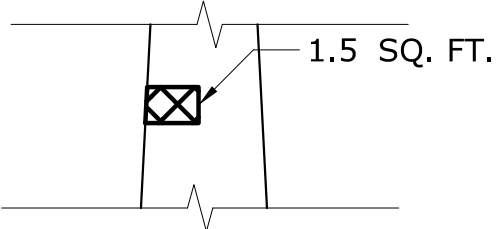


EAST ELEVATION  
PIER 6

SCALE: 3/16" = 1'-0"



1  
-  
VIEW



2  
-  
VIEW

REV.	DATE	REVISION DESCRIPTION	SHEET NO.

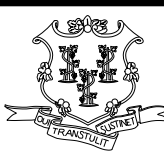
THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 7/6/2016

DESIGNER/DRAFTER:  
**AB**


CHECKED BY:  
**JG**

SCALE AS NOTED



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**DEPARTMENT OF TRANSPORTATION**

Filename: ...\\SB\_MSH\_158-207\_PIER\_6\_REP.dgn



SIGNATURE/  
BLOCK:



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GLASTONBURY, CT 06033

PROJECT TITLE:  
**REHABILITATION OF BRIDGE 00728**  
**MERRITT PARKWAY**  
**OVER SAUGATUCK RIVER**

TOWN:  
**WESTPORT**

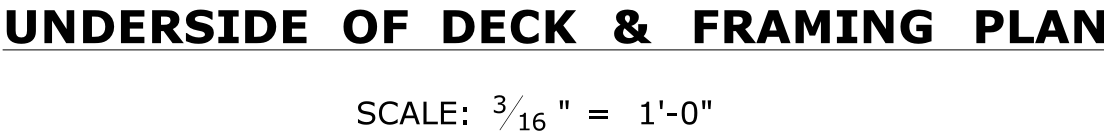
DRAWING TITLE:  
**PIER 6 REPAIRS**

PROJECT NO.  
**158-207**



DRAWING NO.  
**S-18**

SHEET NO.  
**05.03.18**

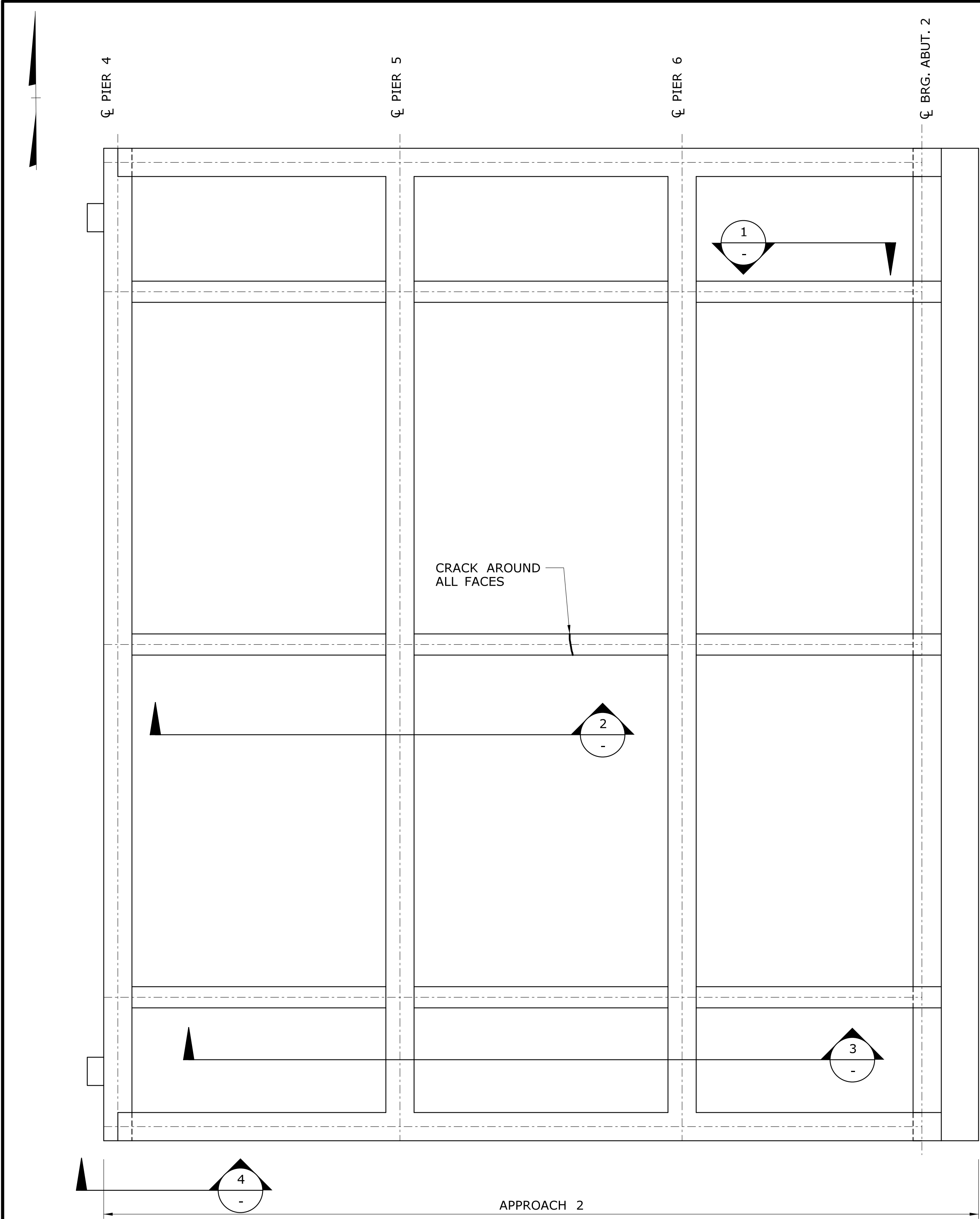




**3** **VIEW**  
- SCALE:  $\frac{3}{8}" = 1'-0"$

				THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.		DESIGNER/DRAFTER: <b>AB</b> CHECKED BY: <b>JG</b> SCALE AS NOTED		 <b>STATE OF CONNECTICUT</b> <b>DEPARTMENT OF TRANSPORTATION</b>		SIGNATURE/ BLOCK: 		PROJECT TITLE: <b>REHABILITATION OF BRIDGE 00728</b> <b>MERRITT PARKWAY</b> <b>OVER SAUGATUCK RIVER</b>		TOWN: <b>WESTPORT</b> PROJECT NO. <b>158-207</b>	
								GM2 ASSOCIATES, INC. 115 GLASTONBURY BLVD GLASTONBURY, CT 06033				DRAWING TITLE: <b>APPROACH</b> <b>REPAIRS (1 OF 2)</b>		DRAWING NO. <b>S-19</b> SHEET NO. <b>05.03.19</b>	
REV.	DATE	REVISION DESCRIPTION		SHEET NO.	Plotted Date: 7/6/2016			Filename: ...\\SB_MSH_158-207_APPROACH_REPAIR (1 OF 2).dgn							

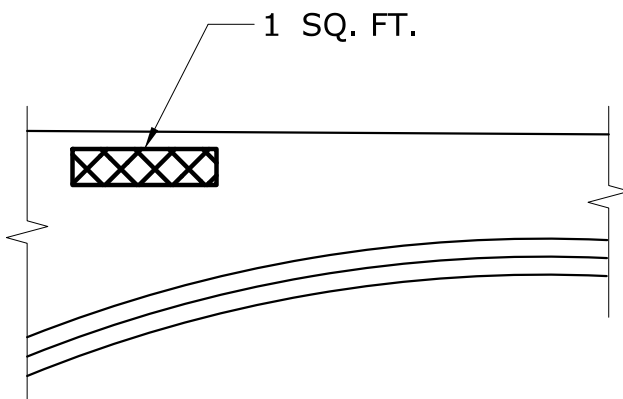




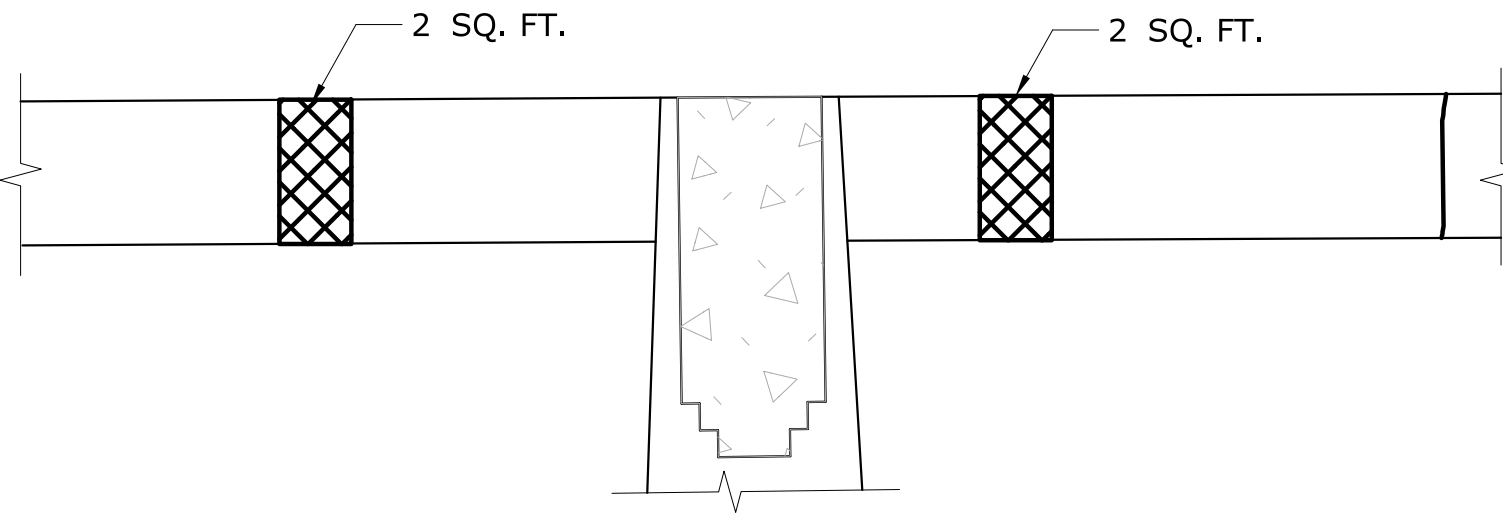
**UNDERSIDE OF DECK & FRAMING PLAN**  
SCALE: 3/16" = 1'-0"

**LEGEND OF ANTICIPATED  
CONCRETE REPAIRS**

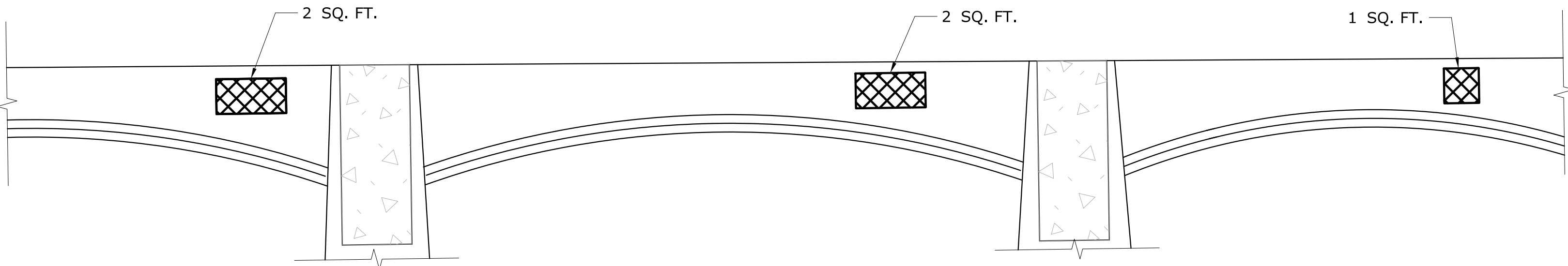
- VARIABLE DEPTH PATCH FOR HISTORIC CONCRETE BRIDGES
- PATCH WITH CLASS "S" CONCRETE FOR HISTORIC BRIDGES



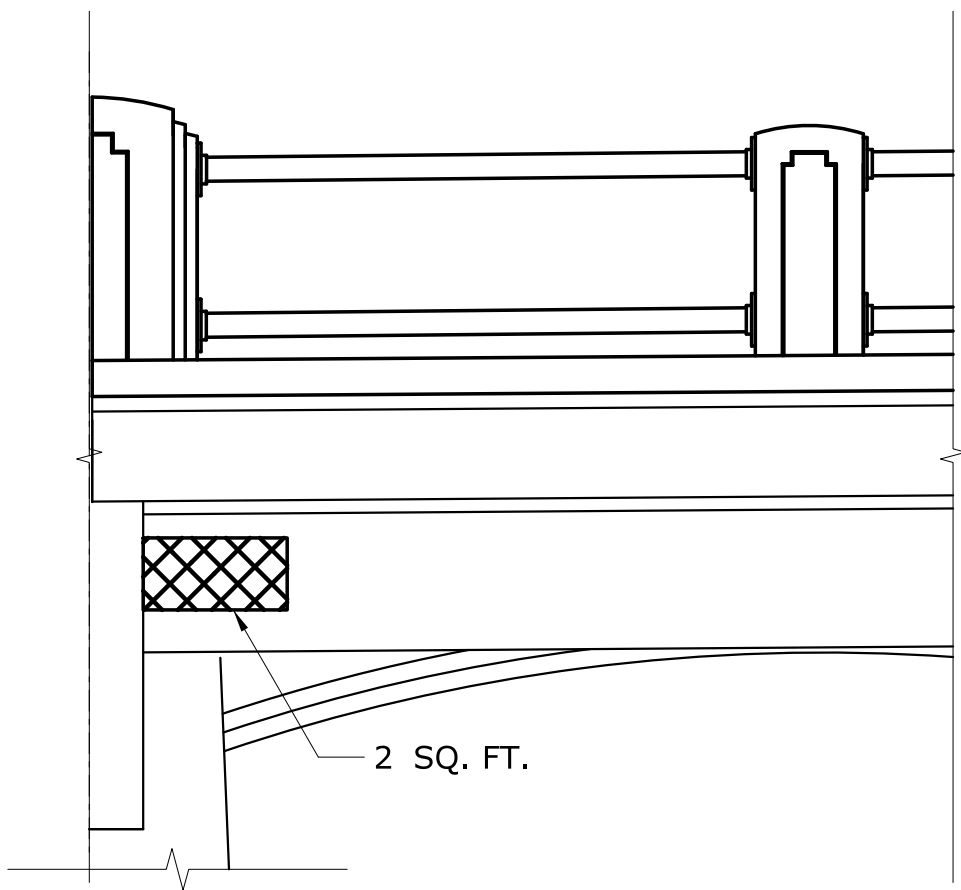
**1 VIEW**  
SCALE: 3/8" = 1'-0"



**2 VIEW**  
SCALE: 3/8" = 1'-0"

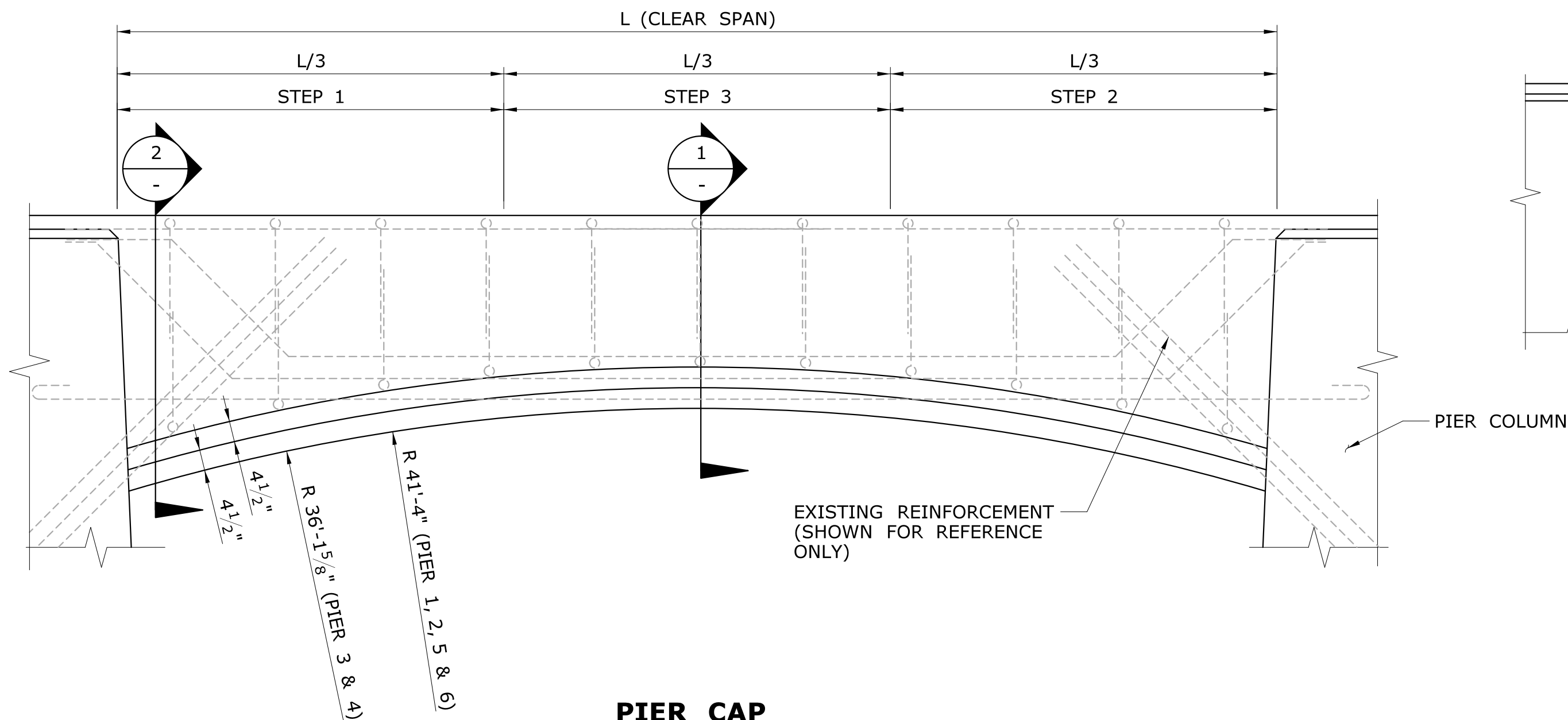


**3 VIEW**  
SCALE: 3/8" = 1'-0"



**4 VIEW**  
SCALE: 3/8" = 1'-0"

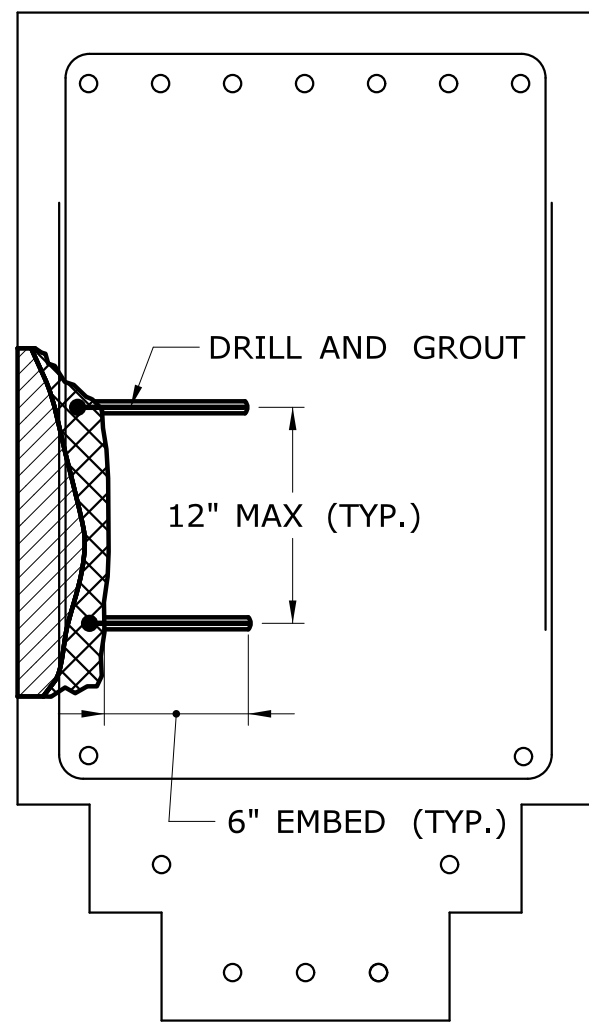




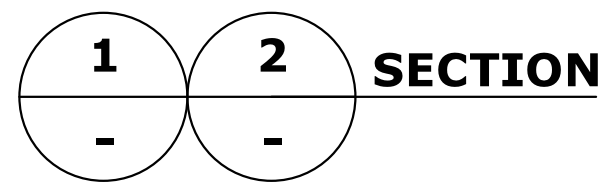
**PIER CAP**  
SCALE: 1/2" = 1'-0"

**LEGEND OF ANTICIPATED CONCRETE REPAIRS**

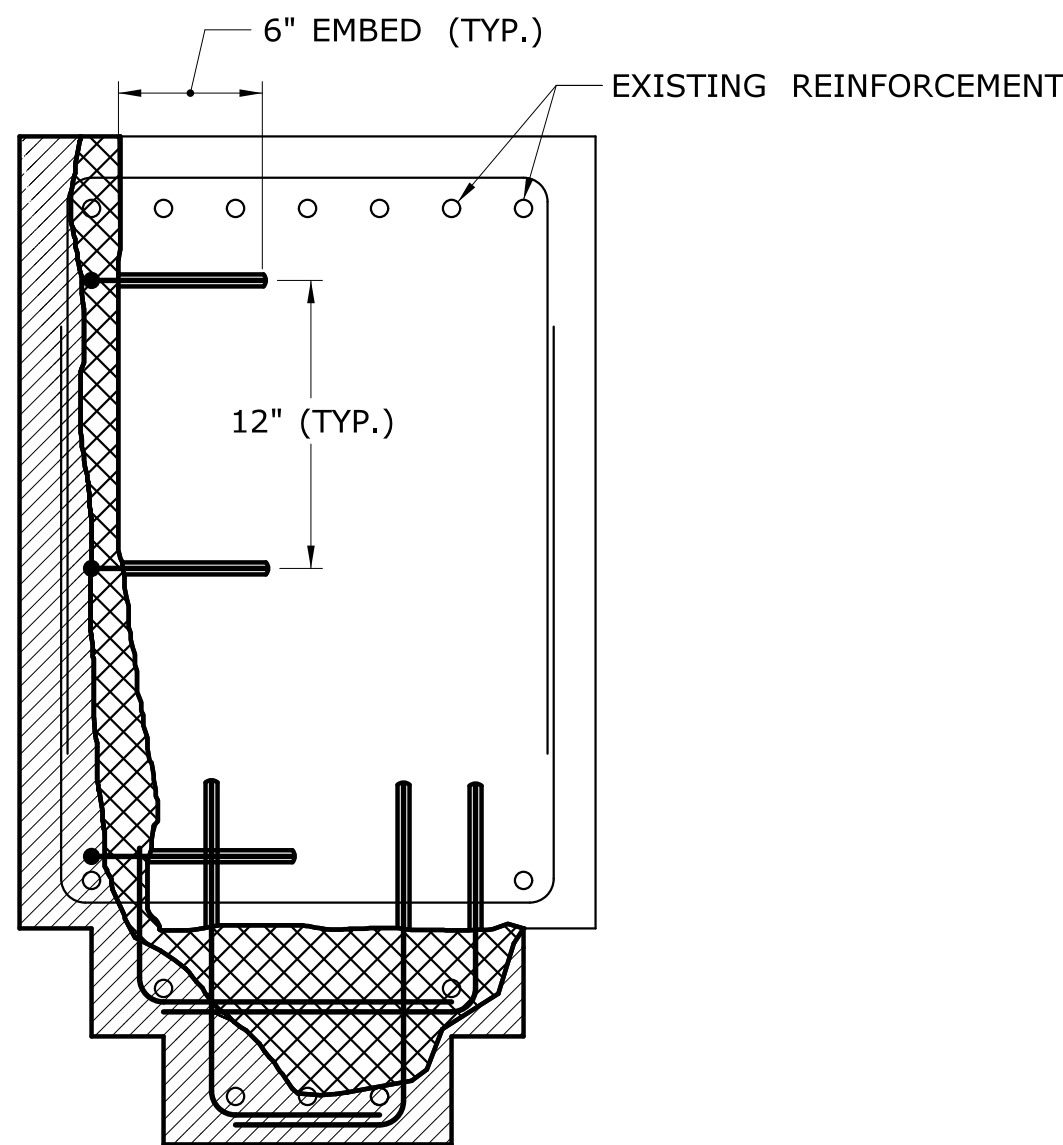
- REMOVE DETERIORATED CONCRETE TO SOUND CONCRETE
- REMOVE SOUND CONCRETE AS REQUIRED TO 1" BEHIND REINFORCEMENT



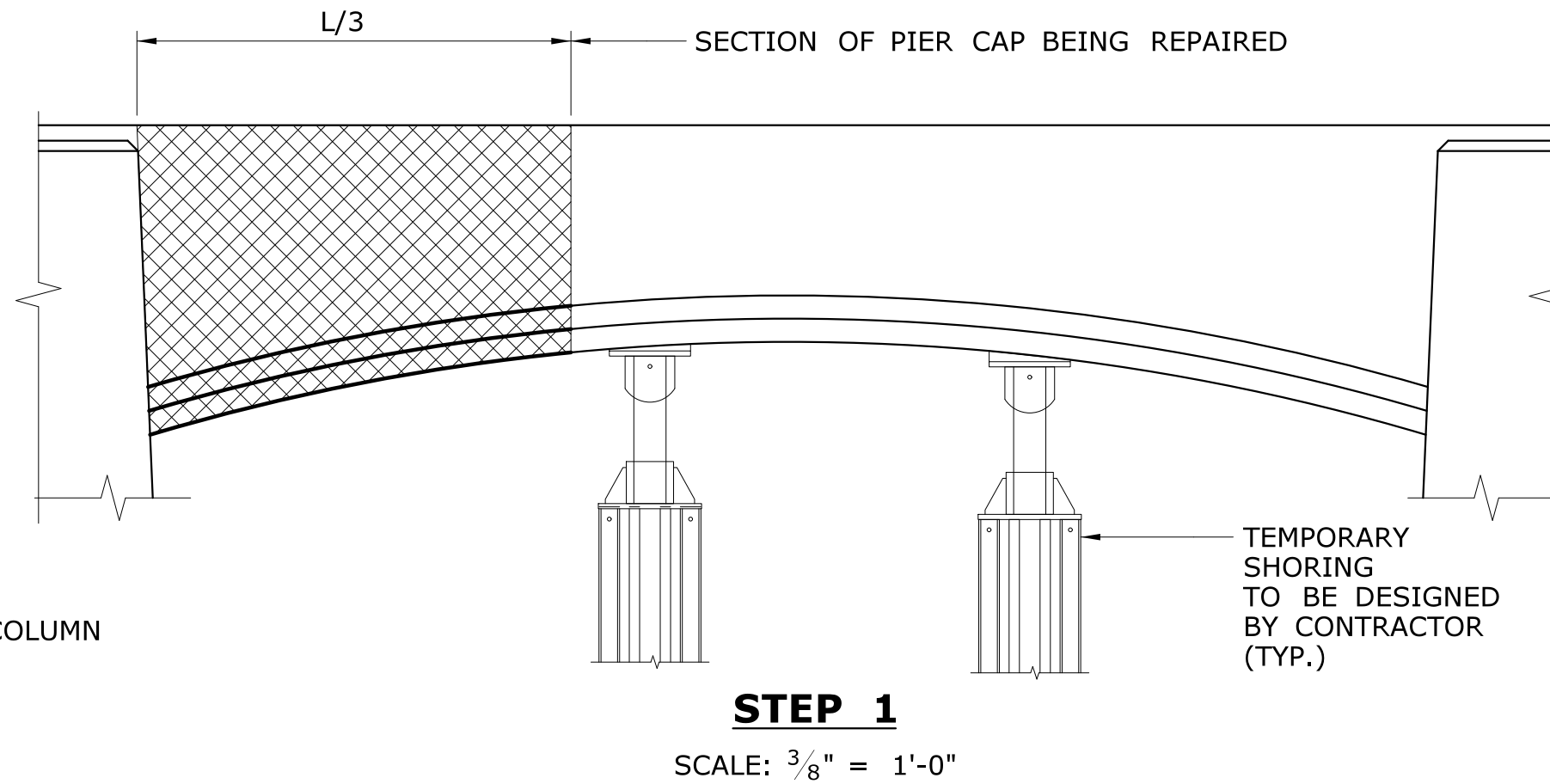
SECTION 1 IS SHOWN SECTION 2 IS SIMILAR



**TYPE 1 REPAIR**  
SCALE: 1 1/2" = 1'-0"



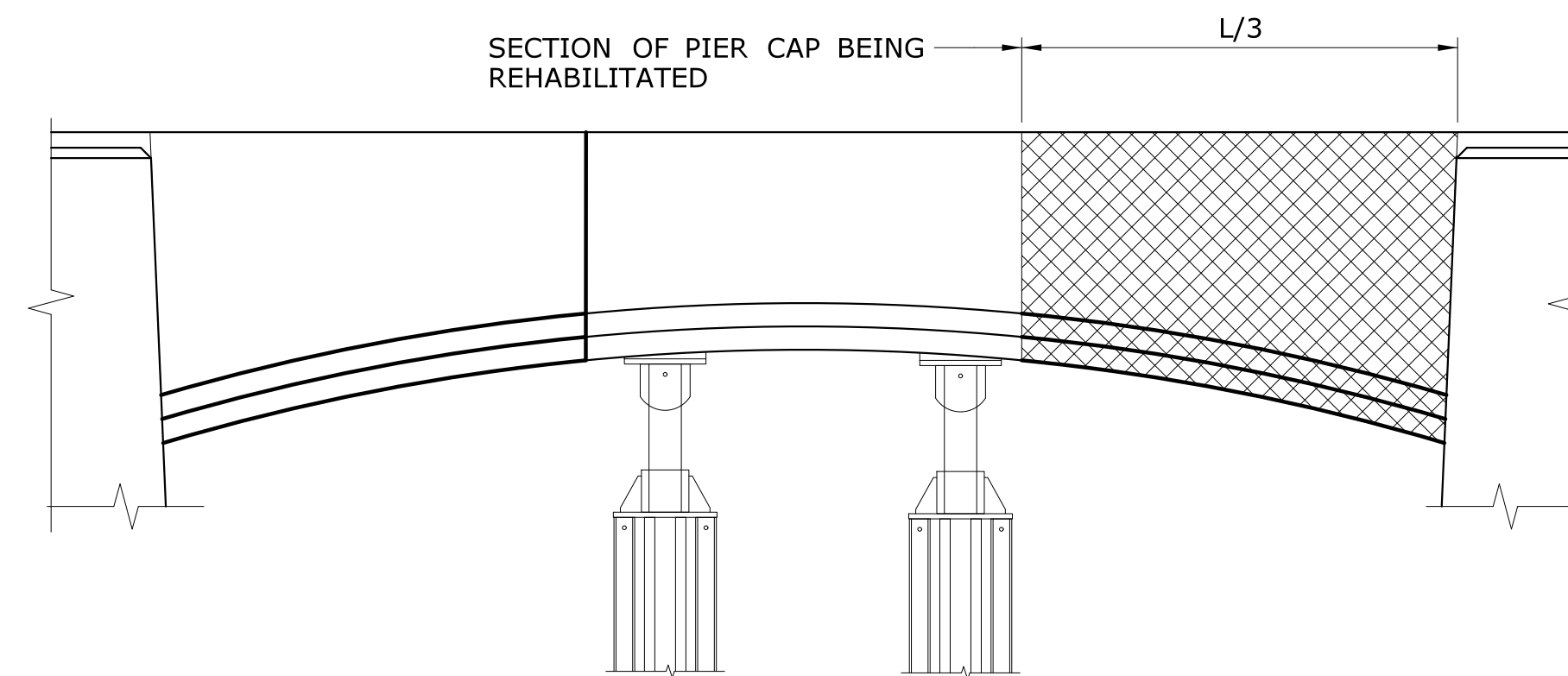
**TYPE 2 REPAIR**  
SCALE: 1 1/2" = 1'-0"



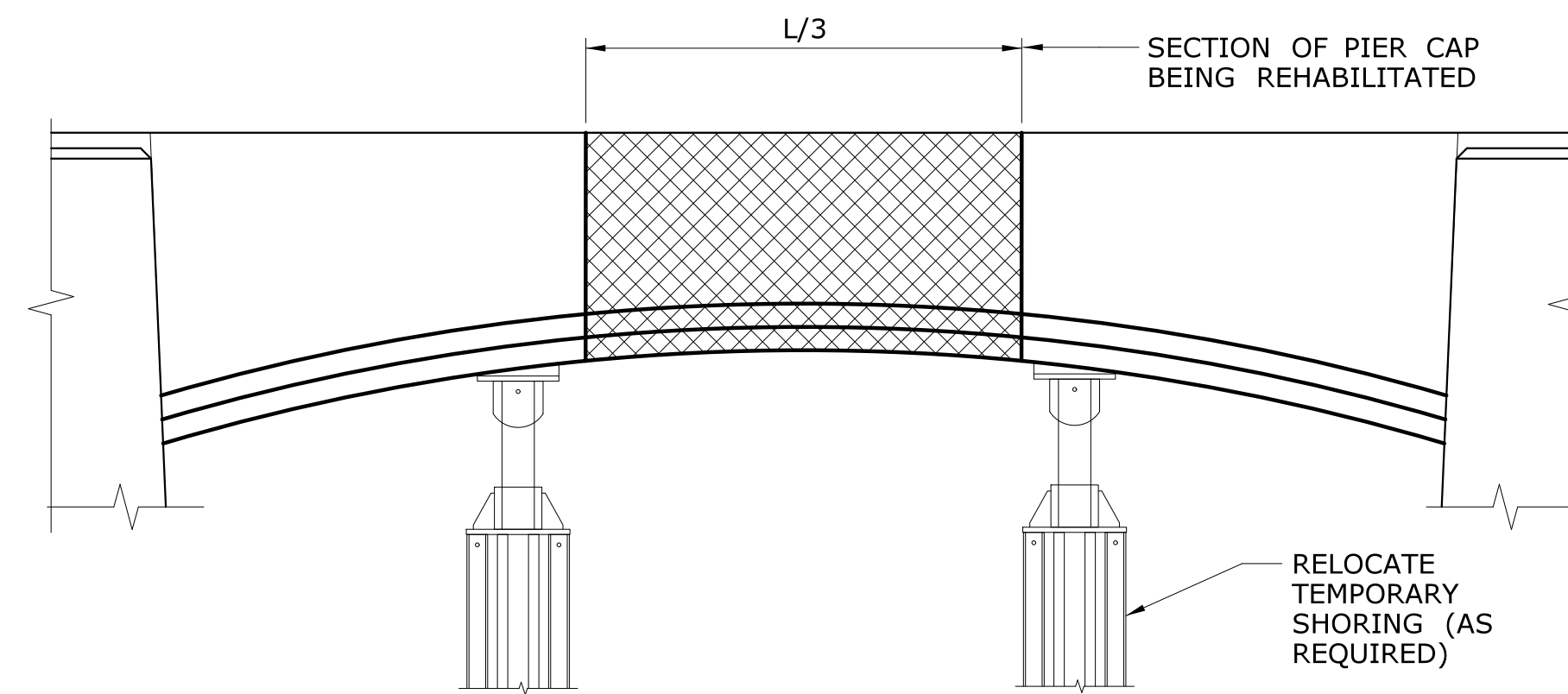
PIER SHORING LOAD (SERVICE)	
DC	57.0 KIPS
DW	5.4 KIPS
LL	96.1 KIPS

**PIER SHORING NOTES:**

1. THE INTENT OF SHORING THE PIER CAP ARE TO PROVIDE SUPPORT FOR THE CONCRETE DURING REHABILITATION.
2. SHORING HEADS SHOWN ARE FOR RISING THE SHORING SYSTEM ONLY BASED ON THE ASSUMED CONCEPT SHOWN ON THIS SHEET. NO JACKING IS REQUIRED.
3. SHORING TOWERS SHALL BE POSITIVELY ENGAGED WITH CONCRETE PIER CAP BEFORE COMMENCING ANY REPAIR OPERATIONS.



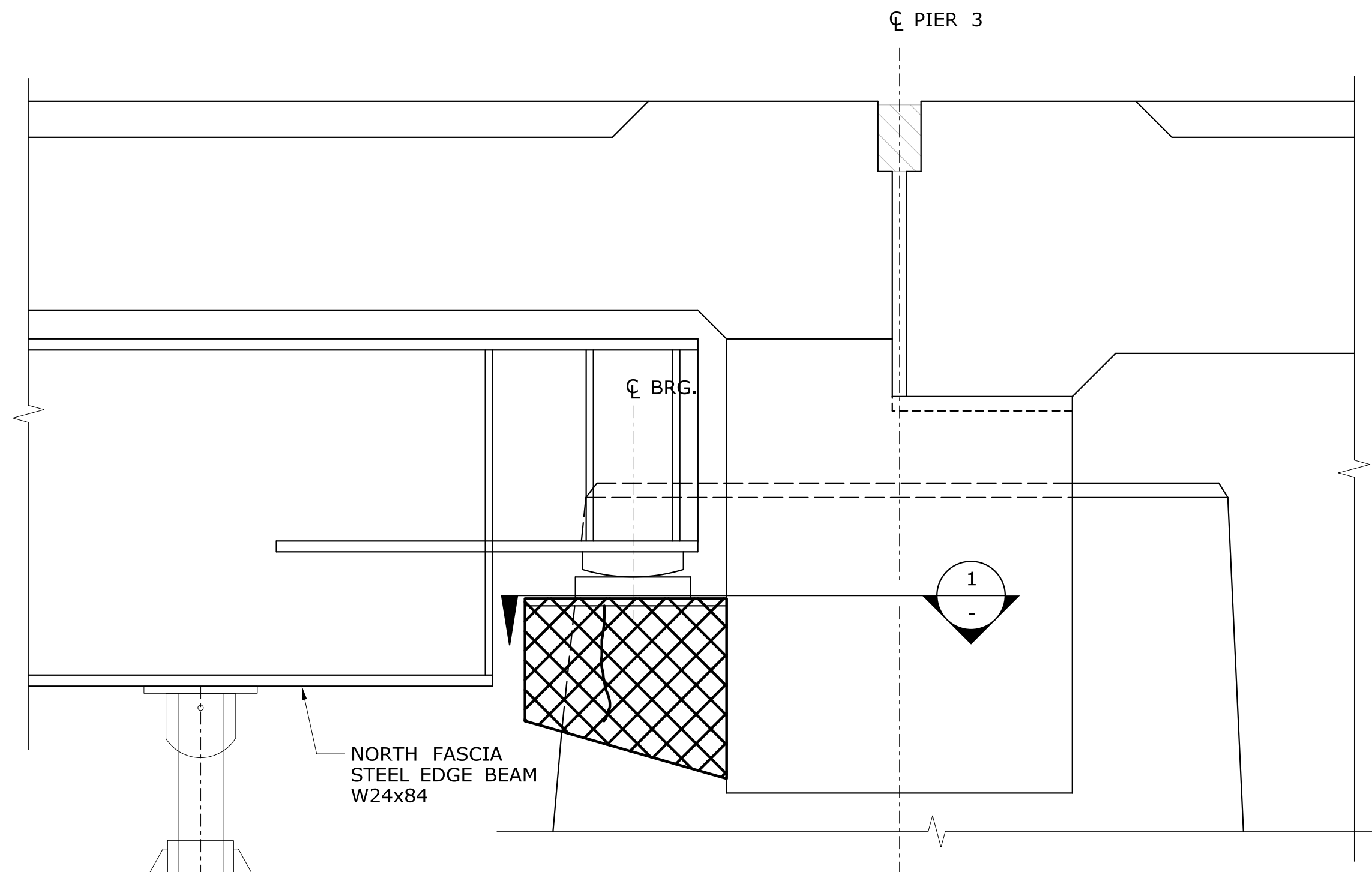
**STEP 2**  
SCALE: 3/8" = 1'-0"



**STEP 3**  
SCALE: 3/8" = 1'-0"

REV.	DATE	REVISION DESCRIPTION	SHEET NO.	Plotted Date: 7/6/2016	DESIGNER/DRAFTER: <b>AB</b> CHECKED BY: <b>JG</b> SCALE AS NOTED	<b>STATE OF CONNECTICUT</b> <b>DEPARTMENT OF TRANSPORTATION</b> Filename: ...\\SB_MSH_158-207_PIER_CAP_REP.dgn	SIGNATURE/ BLOCK: 	GM2 ASSOCIATES, INC. 115 GLASTONBURY BLVD. GLASTONBURY, CT 06033	PROJECT TITLE: <b>REHABILITATION OF BRIDGE 00728</b> <b>MERRITT PARKWAY</b> <b>OVER SAUGATUCK RIVER</b>	TOWN: <b>WESTPORT</b> DRAWING TITLE: <b>PIER CAP REPAIR</b>	PROJECT NO. <b>158-207</b>
											DRAWING NO. <b>S-21</b> SHEET NO. <b>05.03.21</b>

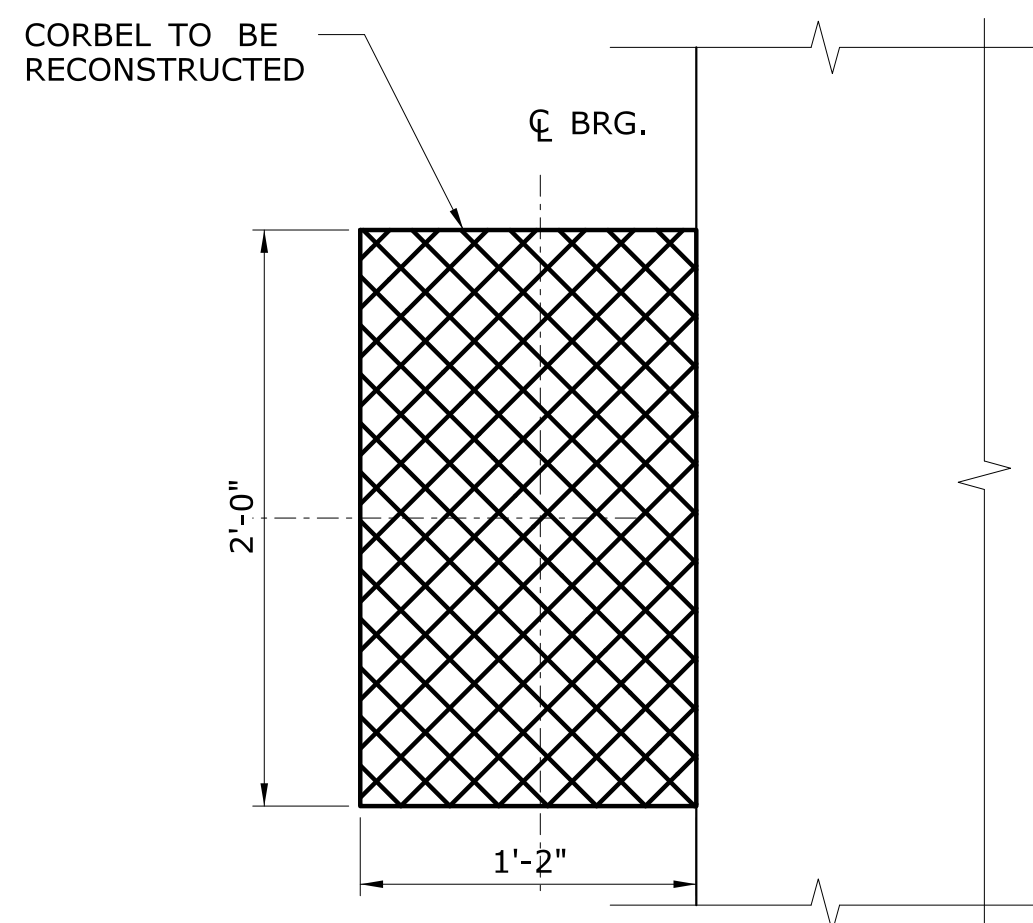




**6** **DETAIL**  
**S-16** SCALE: 1½" = 1'-0"

NOTE: CORBEL AT PIER 3 SHOWN.  
CORBEL AT PIER 4 SIMILAR

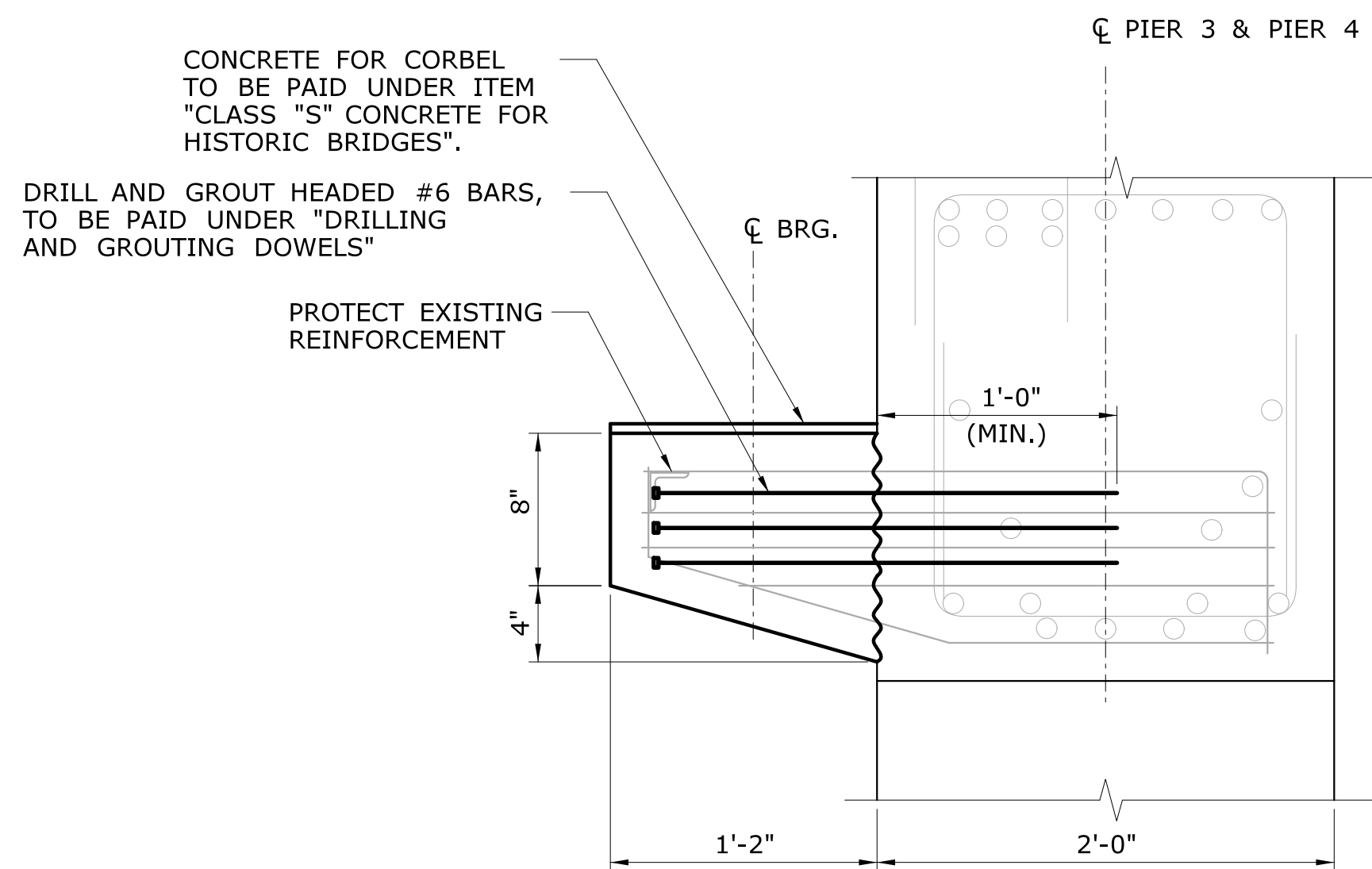
TEMPORARY SUPPORT  
STRUCTURE (TO BE  
DESIGNED BY CONTRACTOR)  
(TO BE PAID UNDER ITEM  
"CONSTRUCTION ACCESS")



**1** **VIEW**  
**-** SCALE: 1½" = 1'-0"

**JACKING LOADS (kips)**

LOCATION	DL	LL+I
EDGE BEAM	50.6	87.8



**TYPICAL CORBEL REINFORCEMENT**

SCALE: 1½" = 1'-0"

**NOTES:**

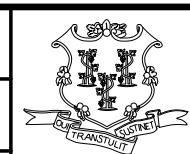
- CORBEL RECONSTRUCTION ON NORTHSIDE OF PIER 3 & 4 SHOULD BE PERFORMED DURING STAGE 3 AFTER STEEL REPAIRS ARE COMPLETED.
- REPAIR OF DAMAGED REINFORCING STEEL SHALL BE PERFORMED AS DIRECTED BY THE ENGINEER AND SHALL BE PAID FOR AT THE CONTRACT BID PRICE FOR "CLASS "S" CONCRETE FOR HISTORIC BRIDGES".

REV.	DATE	REVISION DESCRIPTION	SHEET NO.

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THE CONDITIONS OF ACTUAL QUANTITIES  
OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 7/6/2016

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SCALE AS NOTED



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**DEPARTMENT OF TRANSPORTATION**

Filename: ...\\SB\_MSH\_158-207\_CORBEL\_REP.dgn



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115 GLASTONBURY BLVD.  
GLASTONBURY, CT 06033

PROJECT TITLE:

**REHABILITATION OF BRIDGE 00728**  
**MERRITT PARKWAY**  
**OVER SAUGATUCK RIVER**

TOWN:

**WESTPORT**

DRAWING TITLE:

**CORBEL REPAIR**

PROJECT NO.

**158-207**

DRAWING NO.



**S-22**

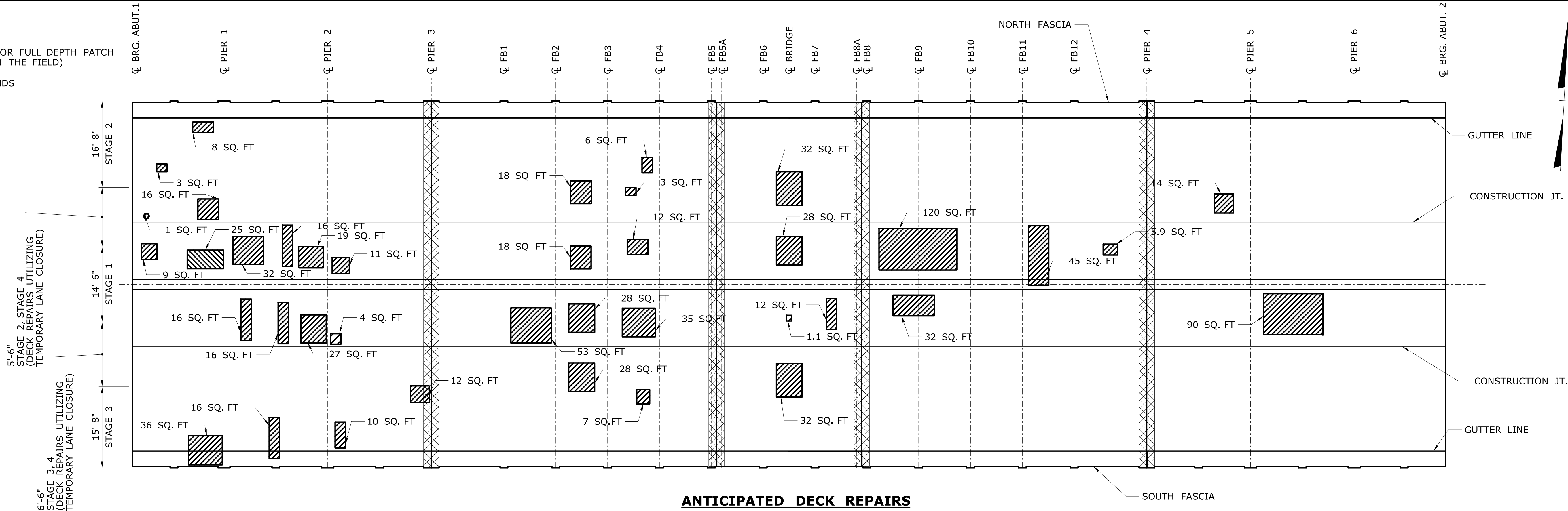
SHEET NO.

**05.03.22**



LEGEND:

-  - PARTIAL DEPTH PATCH OR FULL DEPTH PATCH (TO BE DETERMINED IN THE FIELD)
-  - RECONSTRUCT DECK ENDS

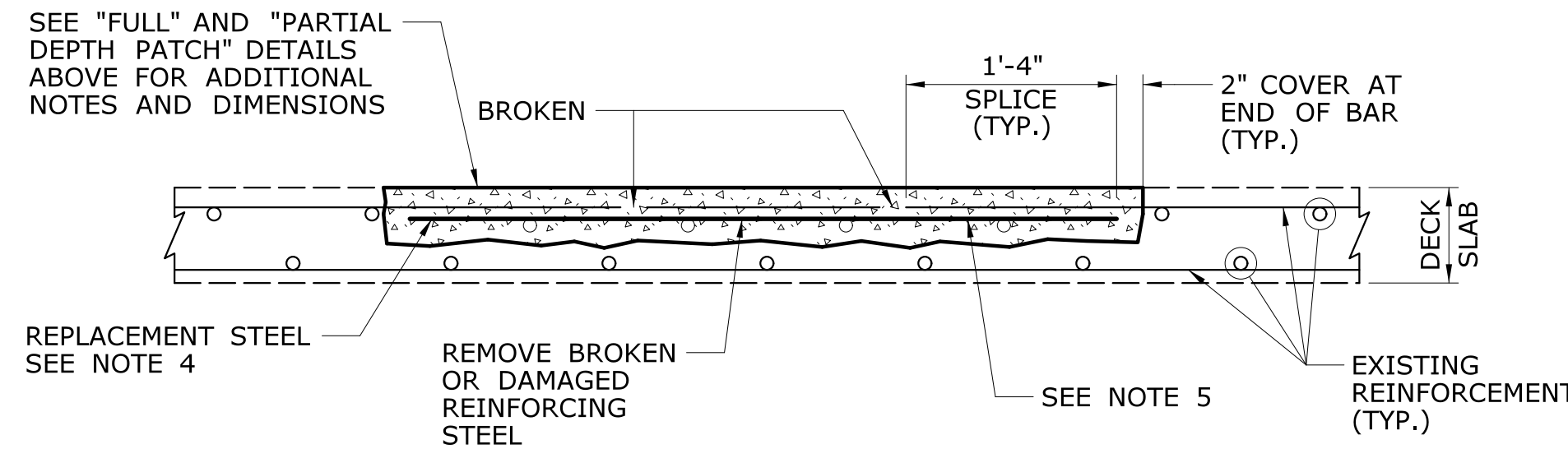
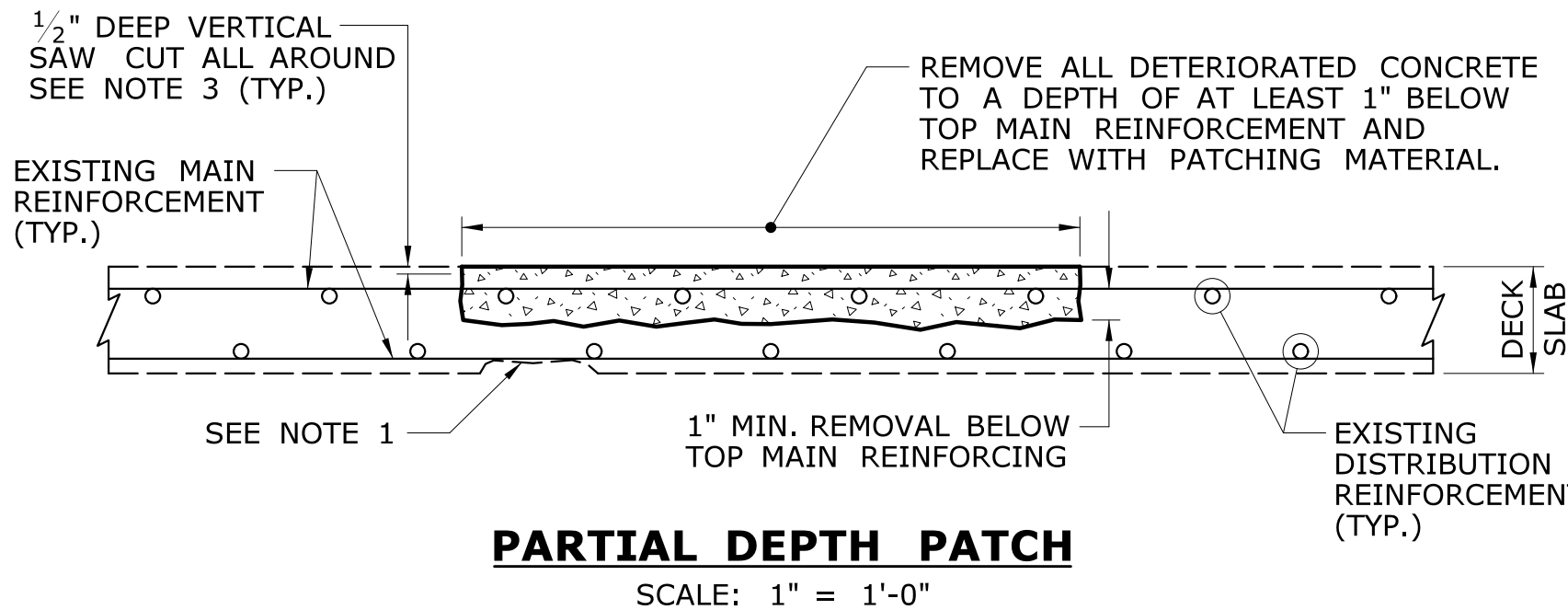
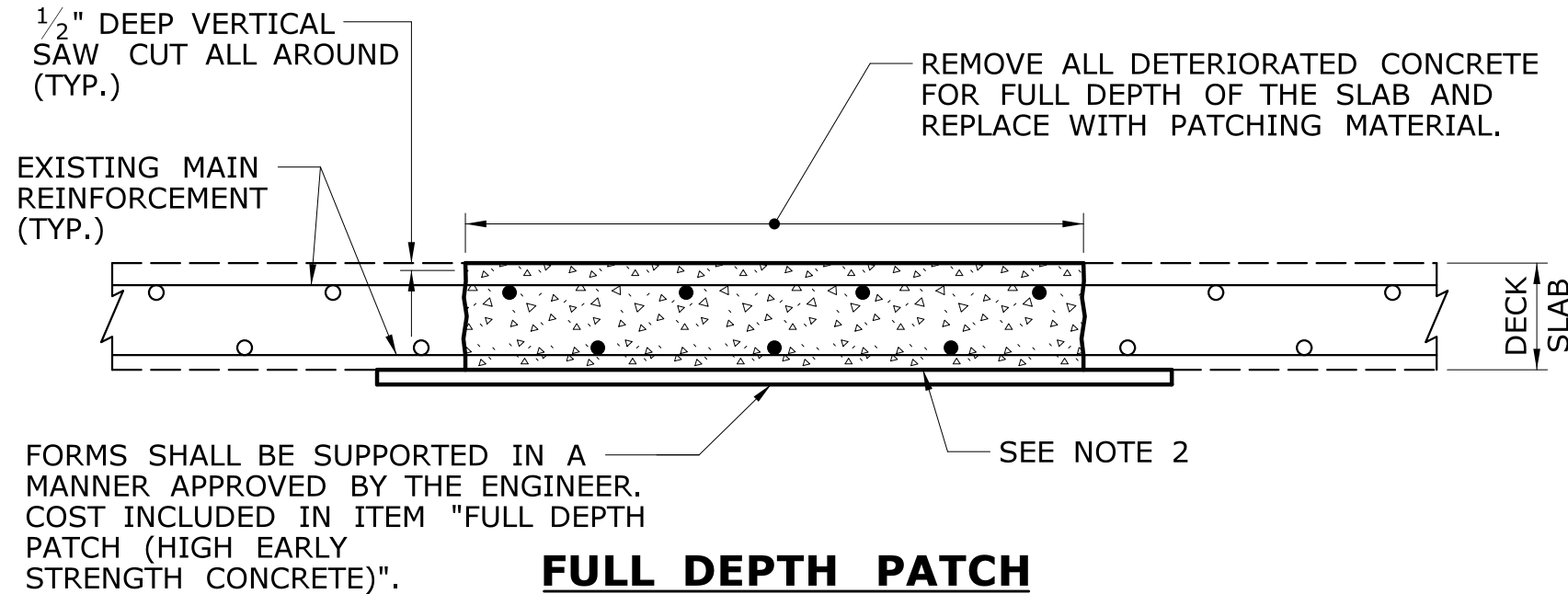


DECK PATCHING NOTES

- AFTER REMOVAL OF DETERIORATED DECK CONCRETE, THE REINFORCEMENT MAY BE FOUND TO BE DETERIORATED PAST THE POINT THAT IT IS ACCEPTABLE TO REUSE. THE EXISTING REINFORCING SHALL BE REPLACED WHEN:
  - EXISTING REINFORCING HAS 25% OR MORE OF SECTION LOSS
  - EXISTING REINFORCING IS BROKEN
  - AS ORDERED BY THE ENGINEER
- ALL EXPOSED REINFORCING STEEL TO REMAIN SHALL BE THOROUGHLY CLEANED AND REUSED IN ACCORDANCE WITH THE SPECIAL PROVISIONS "PARTIAL DEPTH PATCH" AND "FULL DEPTH PATCH (HIGH EARLY STRENGTH CONCRETE)".
- REMOVE CONCRETE AS FAR AS REQUIRED TO EXPOSE SOUND REINFORCEMENT TO LAP THE NEW BARS. THE CONCRETE SHALL BE REMOVED TO A MINIMUM DEPTH OF 1" BELOW THE NEW BARS. REMOVAL IS TO STOP ONCE CONCRETE BEING REMOVED HAS FRACTURE LINES THAT PASS THROUGH AGGREGATE.
- A CHISEL BIT SHALL BE USED FOR THE PNEUMATIC HAMMER. A POINTED BIT SHALL NOT BE USED.
- MATCH EXISTING BAR SIZES AND SPACING FOR BOTH LONGITUDINAL AND TRANSVERSE BARS.
- REINFORCEMENT SHALL BE UNCOATED AND CONFORM TO ASTM A615, GRADE 60.
- IN DETERIORATED AREAS OF CONCRETE, WHERE AREAS OF POP-OUTS ARE CAUSED BY REMOVAL OF DETERIORATED CONCRETE, THE FULL DEPTH OF SLAB SHALL BE REPAIRED AND SHALL BE PAID FOR UNDER ITEM "FULL DEPTH PATCH (HIGH EARLY STRENGTH CONCRETE)". WHERE POP-OUTS ARE CREATED IN GOOD CONCRETE DUE TO REMOVAL OPERATIONS, THEY SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
- AS DIRECTED BY THE ENGINEER, UPON REMOVAL OF THE FORM WORK, ALL VOIDS AND HONEYCOMB ON THE SURFACE SHALL BE FILLED WITH THE SAME MATERIAL AS USED FOR "FULL DEPTH PATCH (HIGH EARLY STRENGTH CONCRETE)" AND FINISHED TO CONFORM TO THE SURROUNDING CONCRETE SURFACE. ABSOLUTELY NO FORM WORK SHALL BE LEFT IN PLACE.
- THE COST OF REMOVAL OF THE DETERIORATED CONCRETE INCLUDING THE 1/2" SAW CUT, AND FURNISHING AND PLACING THE PATCHING MATERIAL SHALL BE INCLUDED FOR PAYMENT UNDER THE ITEMS "PARTIAL DEPTH PATCH" OR "FULL DEPTH PATCH (HIGH EARLY STRENGTH CONCRETE)" AS APPLICABLE.
- REPAIR OF DAMAGED REINFORCING STEEL SHALL BE INCLUDED FOR PAYMENT UNDER THE ITEMS "PARTIAL DEPTH PATCH" OR "FULL DEPTH PATCH (HIGH EARLY STRENGTH CONCRETE)".
- APPROPRIATELY SIZED MECHANICAL SPLICES SHALL BE PERMITTED IN LIEU OF LAP SPLICES. THE COST OF SPLICES SHALL BE INCLUDED UNDER THE ITEMS "PARTIAL DEPTH PATCH" OR "FULL DEPTH PATCH (HIGH EARLY STRENGTH CONCRETE)".

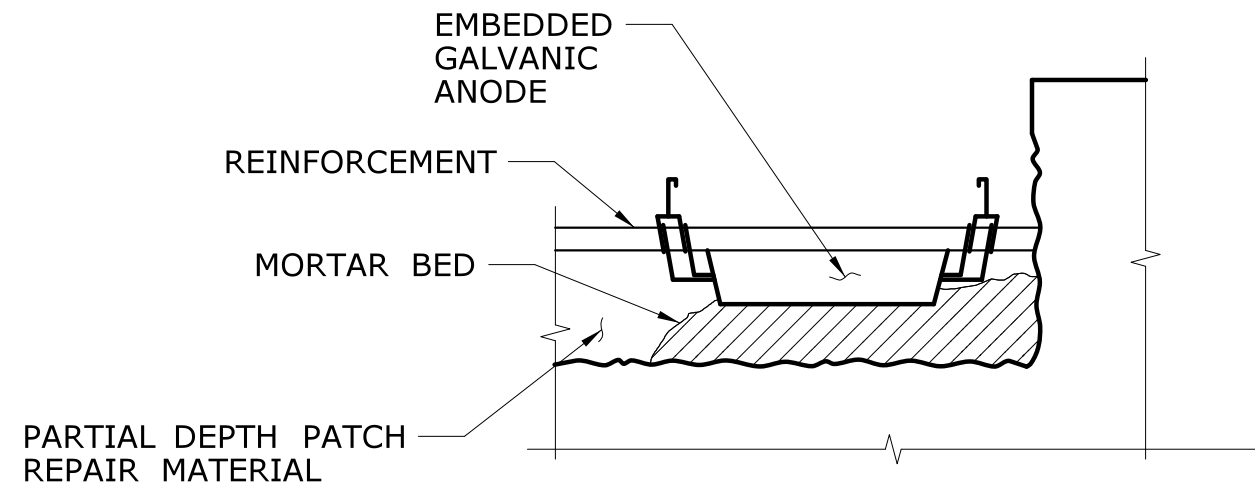
ANTICIPATED DECK REPAIRS

SCALE: 3/32" = 1'-0"



REPAIR OF DAMAGED REINFORCING STEEL

SCALE: 1" = 1'-0"



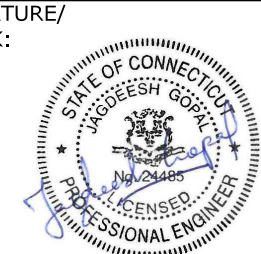


DETAIL - MORTAR BED

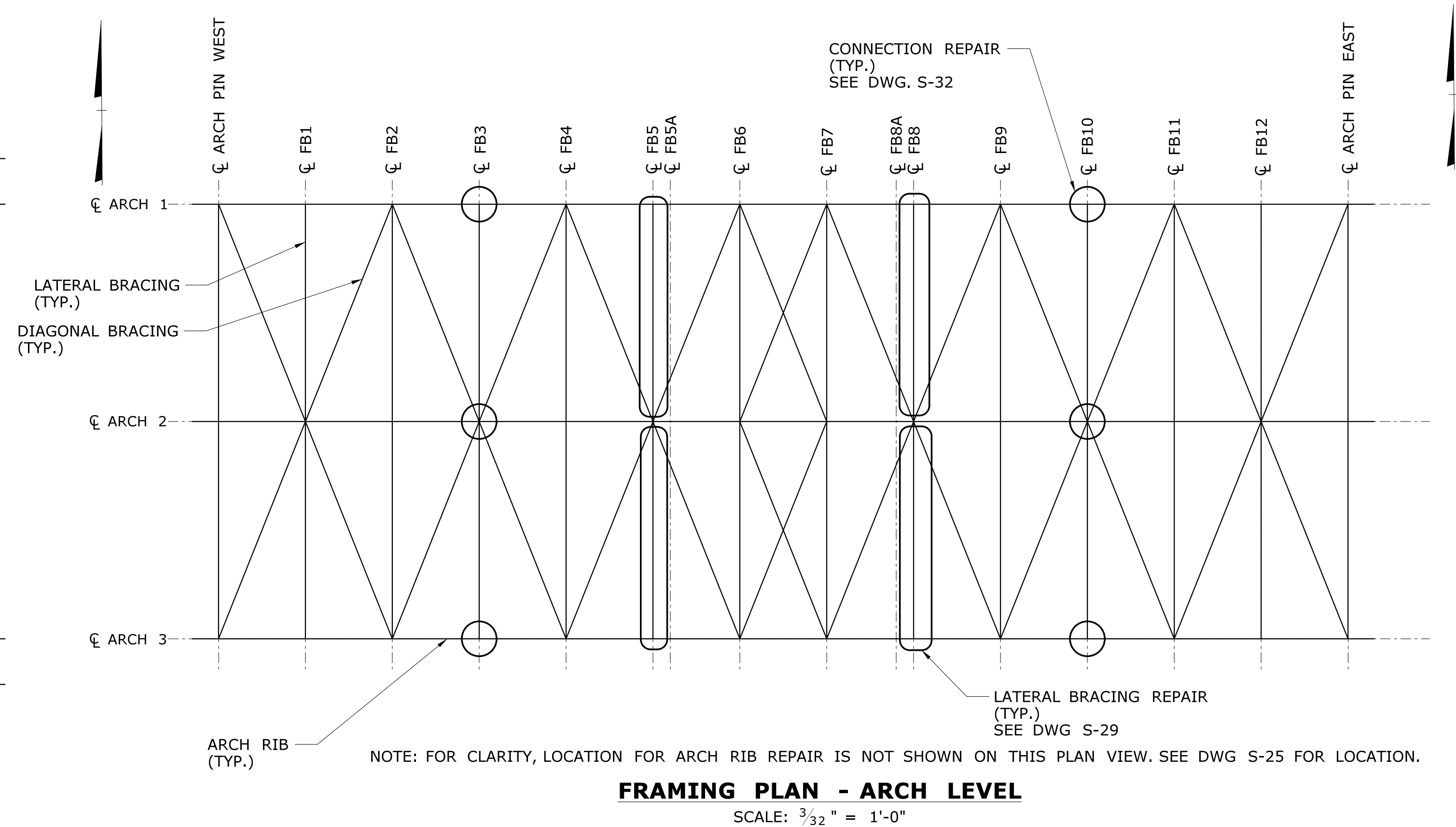
NOT TO SCALE

DECK PATCHING DETAILS



NOTE: SEE DRAWING S-11 FOR EMBEDDED GALVANIC ANODES DETAILS.

				DESIGNER/DRAFTER: <b>NRA</b>		 <b>STATE OF CONNECTICUT</b> <b>DEPARTMENT OF TRANSPORTATION</b>	 SIGNATURE/ BLOCK: 	GM2 ASSOCIATES, INC. 115 GLASTONBURY BLVD. GLASTONBURY, CT 06033	PROJECT TITLE: <b>REHABILITATION OF BRIDGE 00728</b> <b>MERRITT PARKWAY</b> <b>OVER SAUGATUCK RIVER</b>	TOWN: <b>WESTPORT</b>	PROJECT NO. <b>158-207</b>			
				CHECKED BY: <b>JG</b>								DRAWING TITLE: <b>DECK PATCHING</b>		
				SCALE AS NOTED										
REV.	DATE	REVISION DESCRIPTION	SHEET NO.	Plotted Date: 7/6/2016		Filename: ...\\SB_MSH-158-207-DECK_PATCHING.dgn				SHEET NO. <b>05.03.23</b>				





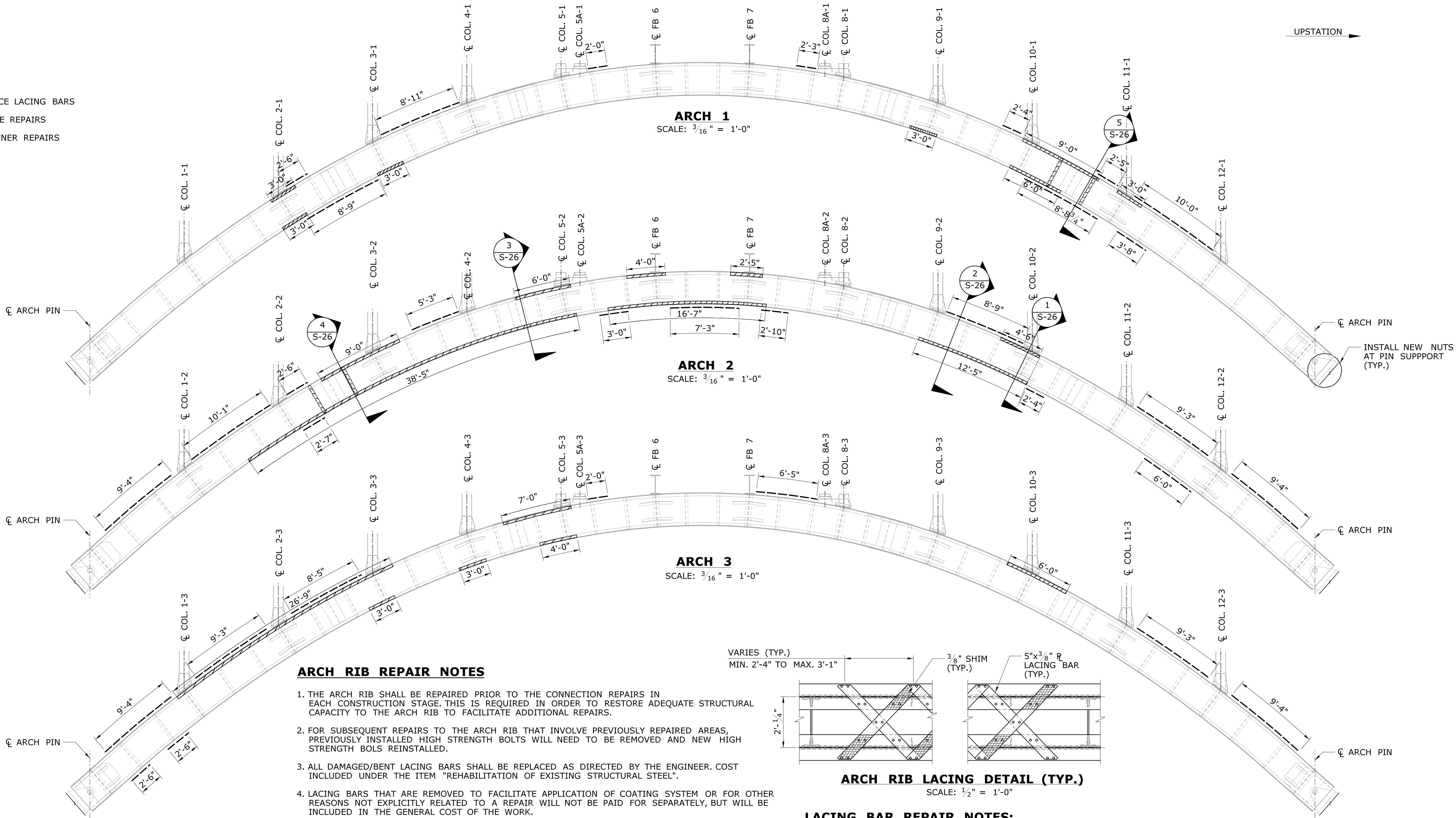
3. ALL STRUCTURAL STEEL SHALL CONFORM TO AASHTO M270 GRADE 50W.
2. WELDING DETAILS, PROCEDURES AND TESTING METHODS SHALL CONFORM TO THE CURRENT EDITION OF THE AASHTO/AWS D1.5M/D1.5 BRIDGE WELDING CODE, UNLESS OTHERWISE NOTED ON THE PLANS.
3. ALL FIELD WELDS SHALL BE INSPECTED BY THE MAGNETIC PARTICLE METHOD.
4. NO ATTACHMENTS OTHER THAN THOSE SHOWN ON THE PLANS SHALL BE FILLET WELDED, PLUG WELDED OR TACK WELDED TO THE EXISTING STEEL.
5. THE STRUCTURAL STEEL FABRICATORS SHALL BE CERTIFIED UNDER THE AISC QUALITY CONTROL PROGRAM, CATEGORY MBR, MAJOR STEEL BRIDGES.
6. THERE ARE TWO SIZES OF RIVETS IN USE ON THE STRUCTURE. RIVETS ON THE ARCH RIB ARE  $\frac{7}{8}$ "  $\emptyset$  AND RIVETS EVERYWHERE ELSE ARE  $\frac{3}{4}$ "  $\emptyset$ . THE CONTRACTOR SHALL USE THE CORRECT SIZE BOLT AS NEEDED. REAMING A HOLE FOR A  $\frac{3}{4}$ "  $\emptyset$  RIVET TO ACCOMMODATE A  $\frac{7}{8}$ "  $\emptyset$  BOLT WILL NOT BE ALLOWED.
7. ALL NEW BOLTS SHALL BE  $\frac{7}{8}$ " DIA. HIGH STRENGTH BOLTS IN  $\frac{15}{16}$ " DIA. HOLES ON THE ARCH RIB MEMBERS AND  $\frac{3}{4}$ " DIA. BOLTS WITH  $\frac{13}{16}$ " DIA. HOLES ELSEWHERE, EXCEPT AS NOTED AND SHALL CONFORM TO THE REQUIREMENTS OF ASTM A325 TYPE 1.
8. PRIOR TO INSTALLATION OF ANY REPAIR PLATES, THE SURFACES IN CONTACT SHALL BE PREPARED IN ACCORDANCE WITH THE SPECIAL PROVISION HRCSA CORROSION PROTECTION SYSTEM AND THE PENETRANT SEALER APPLIED TO BOTH CONTACT SURFACES PRIOR TO INSTALLATION OF ANY REPAIRS.
9. THE LOCATION OF THE EXISTING RIVETS SHALL BE TRANSFERRED TO THE PROPOSED STEEL USING TEMPLATES.
10. ALL HOLES IN THE NEW STEEL SHALL BE SUB-DRILLED (OR SUB-PUNCHED) TO  $\frac{15}{16}$ " DIA. ON THE ARCH RIB AND  $\frac{13}{16}$ " DIA. ELSEWHERE, EXCEPT AS NOTED.
11. ALL NEW HOLES IN PROPOSED STEEL WHERE THERE ARE EXISTING RIVETS/ BOLTS SHALL BE LOCATED USING A TEMPLATE MADE FROM THE EXISTING STEEL AND HOLES SUBDRILLED.
12. IN LOCATIONS WHERE THERE IS NO EXISTING RIVET, THE HOLES SHALL BE SUB-DRILLED.
11. THE CONTRACTOR SHALL CAREFULLY REMOVE THE RIVET HEADS WHICH INTERFERE WITH THE INSTALLATION OF THE REPAIR PLATES. REMOVAL SHALL UTILIZE A LIGHT CHIPPING HAMMER WITH AN APPROPRIATE ATTACHMENT OR GRINDING. BURNING WILL NOT BE ALLOWED. THE CONTRACTOR SHALL TAKE CARE NOT TO DAMAGE THE EXISTING STEEL. ANY DAMAGE SHALL BE REPAIRED USING A PROCEDURE APPROVED BY THE ENGINEER.
12. THE CONTRACTOR SHALL TAKE PROPER PRECAUTIONS TO ENSURE THE STABILITY OF ALL STRUCTURAL ELEMENTS UNTIL THE TOTAL STRUCTURE IS IN BEING.

				THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.		DESIGNER/DRAFTER: <b>SC/NRA</b> CHECKED BY: <b>JG</b>		 <b>STATE OF CONNECTICUT</b> <b>DEPARTMENT OF TRANSPORTATION</b>		SIGNATURE/ BLOCK:  GM2 ASSOCIATES, INC. 115 GLASTONBURY BLVD GLASTONBURY, CT 06033		PROJECT TITLE: <b>REHABILITATION OF BRIDGE 00728</b> <b>MERRITT PARKWAY</b> <b>OVER SAUGATUCK RIVER</b>		TOWN: <b>WESTPORT</b>		PROJECT NO. <b>158-207</b>		
						SCALE AS NOTED		Filename: ...\\SB_MSH-158-207-FRAMING_PLAN.dgn				DRAWING TITLE: <b>STEEL FRAMING PLAN</b>		DRAWING NO. <b>S-24</b>		SHEET NO. <b>05.03.24</b>		
REV.	DATE	REVISION DESCRIPTION		SHEET NO.	Plotted Date: 7/6/2016													



LEGEND:

- REPLACE LACING BARS  
FLANGE REPAIRS  
STIFFENER REPAIRS



ARCH RIB REPAIR NOTES

1. THE ARCH RIB SHALL BE REPAIRED PRIOR TO THE CONNECTION REPAIRS IN EACH CONSTRUCTION STAGE. THIS IS REQUIRED IN ORDER TO RESTORE ADEQUATE STRUCTURAL CAPACITY TO THE ARCH RIB TO FACILITATE ADDITIONAL REPAIRS.
2. FOR SUBSEQUENT REPAIRS TO THE ARCH RIB THAT INVOLVE PREVIOUSLY REPAIRED AREAS, PREVIOUSLY INSTALLED HIGH STRENGTH BOLTS WILL NEED TO BE REMOVED AND NEW HIGH STRENGTH BOLTS REINSTALLED.
3. ALL DAMAGED/BENT LACING BARS SHALL BE REPLACED AS DIRECTED BY THE ENGINEER. COST INCLUDED UNDER THE ITEM "REHABILITATION OF EXISTING STRUCTURAL STEEL".
4. LACING BARS THAT ARE REMOVED TO FACILITATE APPLICATION OF COATING SYSTEM OR FOR OTHER REASONS NOT EXPLICITLY RELATED TO A REPAIR WILL NOT BE PAID FOR SEPARATELY, BUT WILL BE INCLUDED IN THE GENERAL COST OF THE WORK.
5. ALTERNATE LOAD PATHS TO THE ARCH RIB SHALL BE PROVIDED FOR ALL BRACING MEMBERS THAT ARE DISCONNECTED DURING STRUCTURAL REPAIRS. THE ALTERNATE LOAD PATHS FOR THE BRACING SHALL BRACE THE ARCH RIB AS CLOSE AS PRACTICAL TO THE ORIGINAL BRACE ATTACHMENT LOCATION.
6. ALL NEW BOLTS SHALL BE 7/8" DIA. HIGH STRENGTH BOLTS IN 15/16" DIA. HOLES ON THE ARCH RIB MEMBERS AND SHALL CONFORM TO THE REQUIREMENTS OF ASTM A325 TYPE 1.
7. ALL STEEL REPAIRS PERFORMED TO BE PAID FOR UNDER THE CONTRACT UNIT PRICE FOR "REHABILITATION OF EXISTING STRUCTURAL STEEL".
8. MISSING OR CORRODED RIVETS/ BOLTS TO BE REPLACED IN AN AREA WHERE NO STRUCTURAL REPAIRS ARE BEING PERFORMED, WILL BE PAID FOR UNDER THE ITEM "REPLACE REMOVED OR MISSING RIVETS AND BOLTS WITH HIGH STRENGTH BOLTS".


ARCH RIB LACING DETAIL (TYP.)  
SCALE: 1/2" = 1'-0"

LACING BAR REPAIR NOTES:

1. LACING BARS ARE TO BE REPLACED TWO BARS AT A TIME.
2. THE FLANGE AREA BELOW THE LACING BAR IS TO BE CLEANED AND PREPARED IN ACCORDANCE WITH THE SPECIAL PROVISION "HRCSA CORROSION PROTECTION SYSTEM" BEFORE INSTALLING THE NEW BAR.

REV.	DATE	REVISION DESCRIPTION	SHEET NO.	Plotted Date: 7/6/2016

DESIGNER/DRAFTER: <b>SC/NRA</b>
CHECKED BY: <b>JG</b>
SCALE AS NOTED

 **STATE OF CONNECTICUT**  
**DEPARTMENT OF TRANSPORTATION**

Filename: ...\\SB\_MSH\_158-207\_ARCH.REP\_1.dgn

SIGNATURE/  
BLOCK:

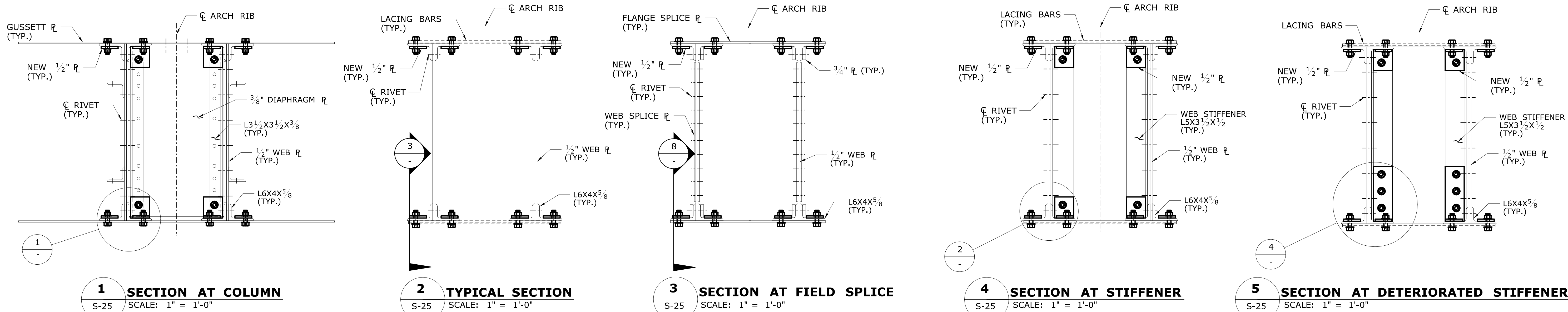


GM2 ASSOCIATES, INC.  
115 GLASTONBURY BLVD.  
GLASTONBURY, CT 06033

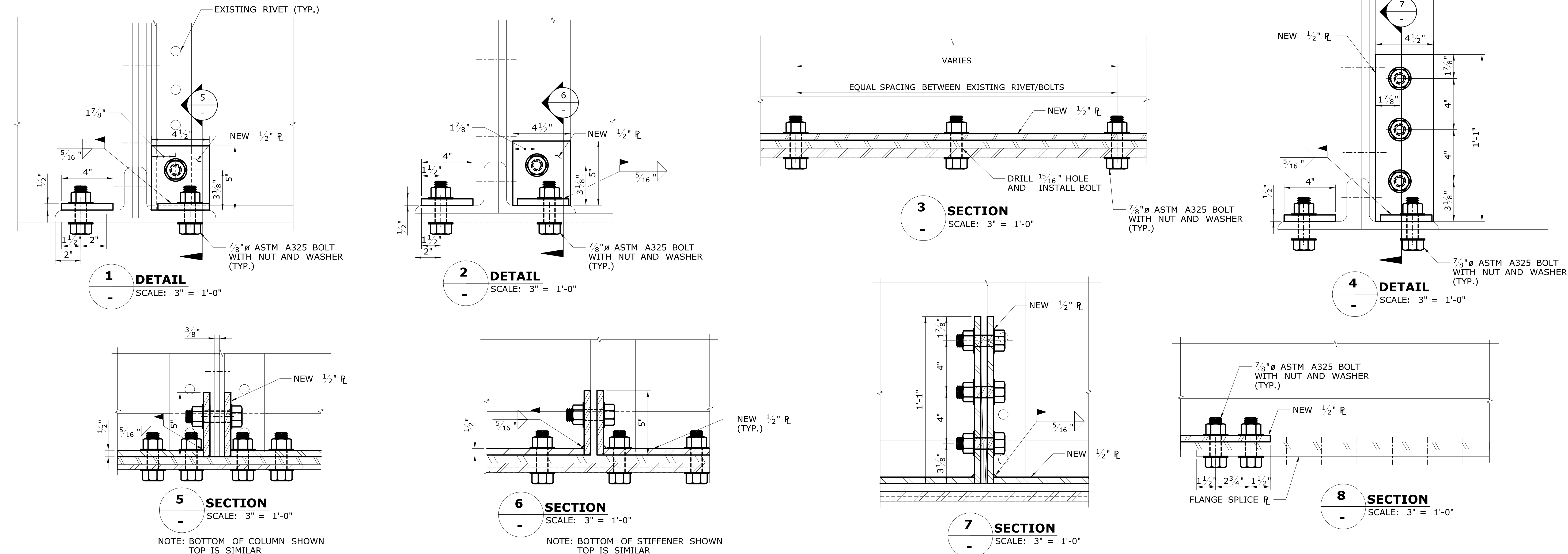
PROJECT TITLE:  
**REHABILITATION OF BRIDGE 00728**  
**MERRITT PARKWAY**  
**OVER SAUGATUCK RIVER**

TOWN: <b>WESTPORT</b>	PROJECT NO. <b>158-207</b>
DRAWING TITLE: <b>ARCH RIB</b> <b>REPAIRS (1 OF 2)</b>	DRAWING NO. <b>S-25</b>
	SHEET NO. <b>05.03.25</b>



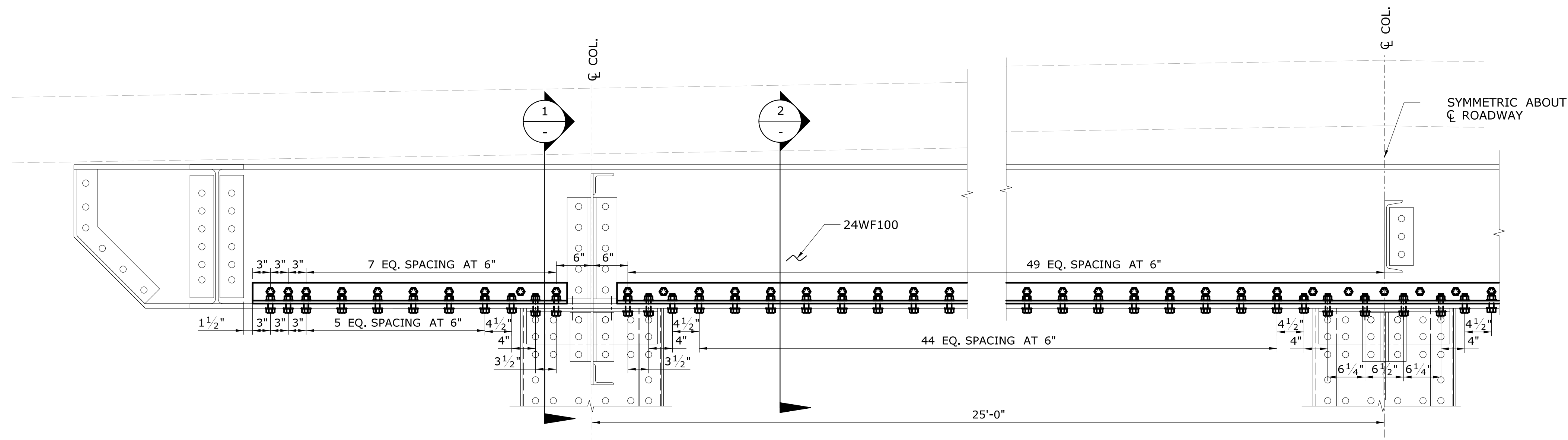


**SECTION THROUGH ARCH RIB**  
SCALE: 1" = 1'-0"



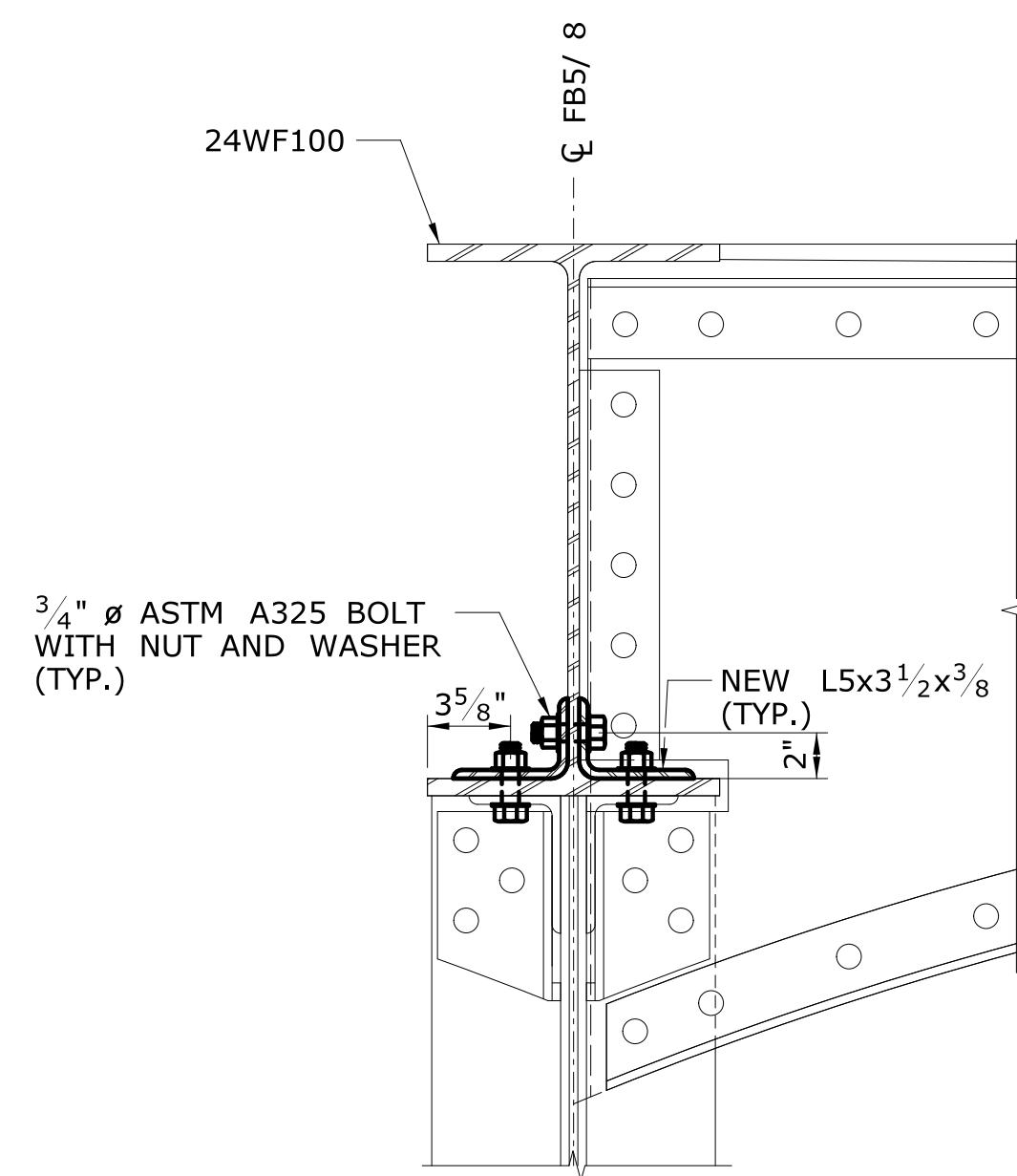
				THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.		DESIGNER/DRAFTER: <b>SC/NRA</b> CHECKED BY: <b>JG</b> SCALE AS NOTED	 <b>STATE OF CONNECTICUT</b> <b>DEPARTMENT OF TRANSPORTATION</b> Filename: ...\\SB_MSH_158-207_ARCH_REP_2.dgn	 SIGNATURE/ BLOCK:  GM2 ASSOCIATES, INC. 115 GLASTONBURY BLVD. GLASTONBURY, CT 06033	PROJECT TITLE: <b>REHABILITATION OF BRIDGE 00728</b> <b>MERRITT PARKWAY</b> <b>OVER SAUGATUCK RIVER</b>	TOWN: <b>WESTPORT</b> DRAWING TITLE: <b>ARCH RIB</b> <b>REPAIRS (2 OF 2)</b>	PROJECT NO. <b>158-207</b>
REV.	DATE	REVISION DESCRIPTION	SHEET NO.	Plotted Date: 7/6/2016							SHEET NO. <b>05.03.26</b>



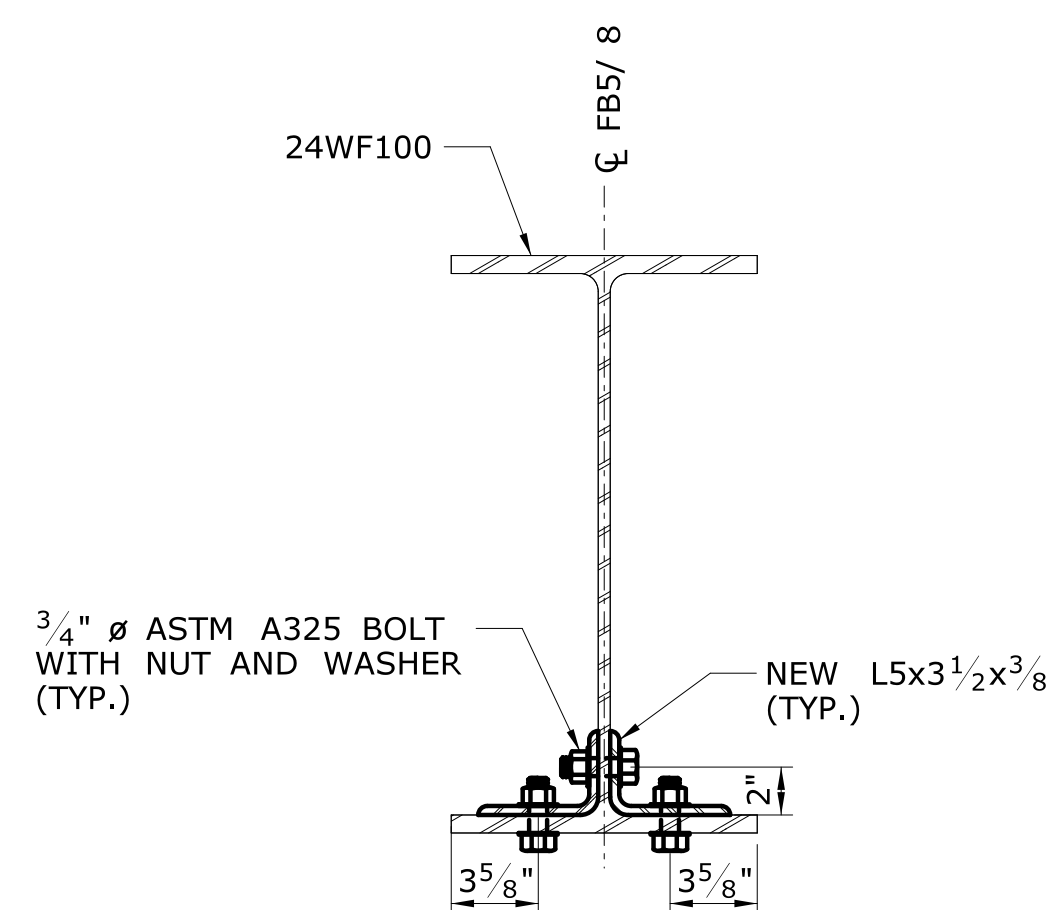


### FLOORBEAM ELEVATION

NOTE: FLOORBEAM 5 SHOWN. FLOORBEAM 8 SIMILAR.



**1 SECTION**  
SCALE: 1 1/2" = 1'-0"



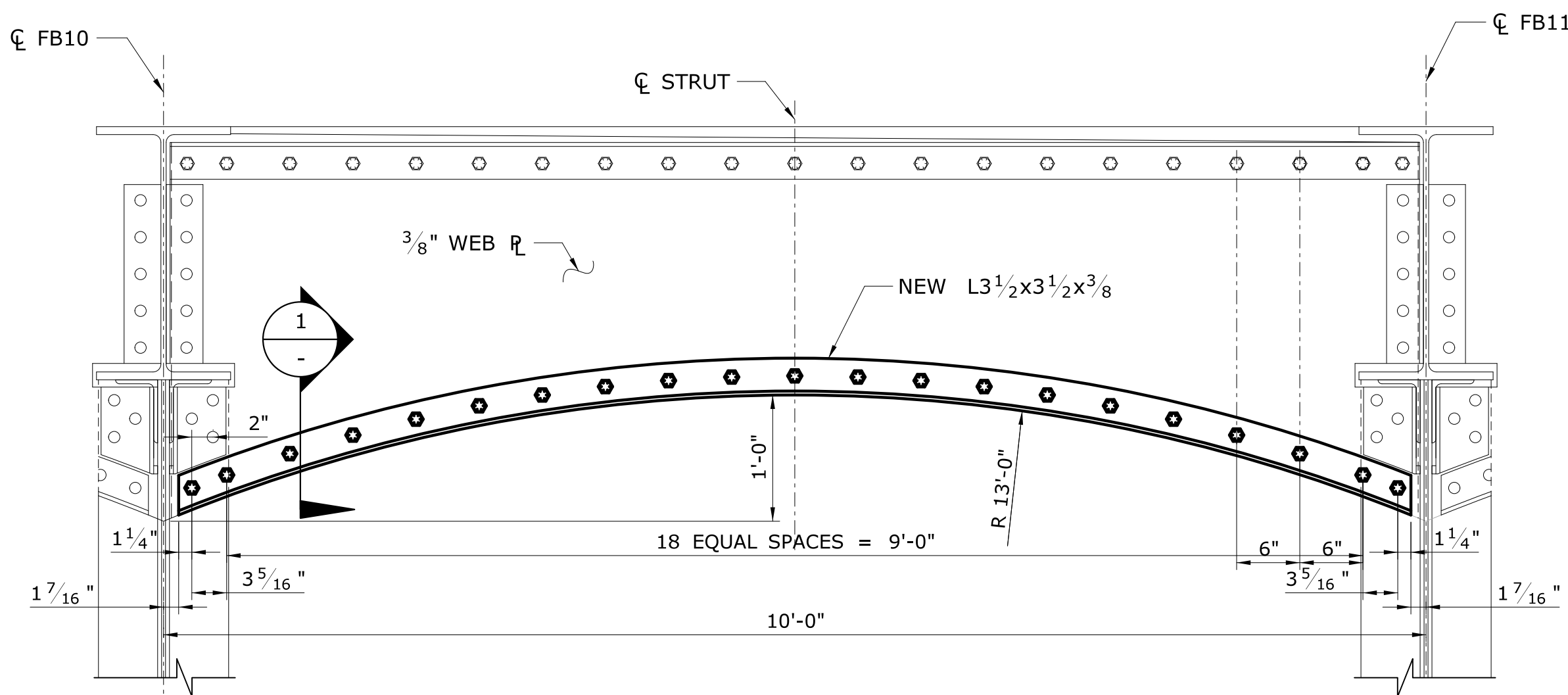
**2 SECTION**  
SCALE: 1 1/2" = 1'-0"

### NOTES:

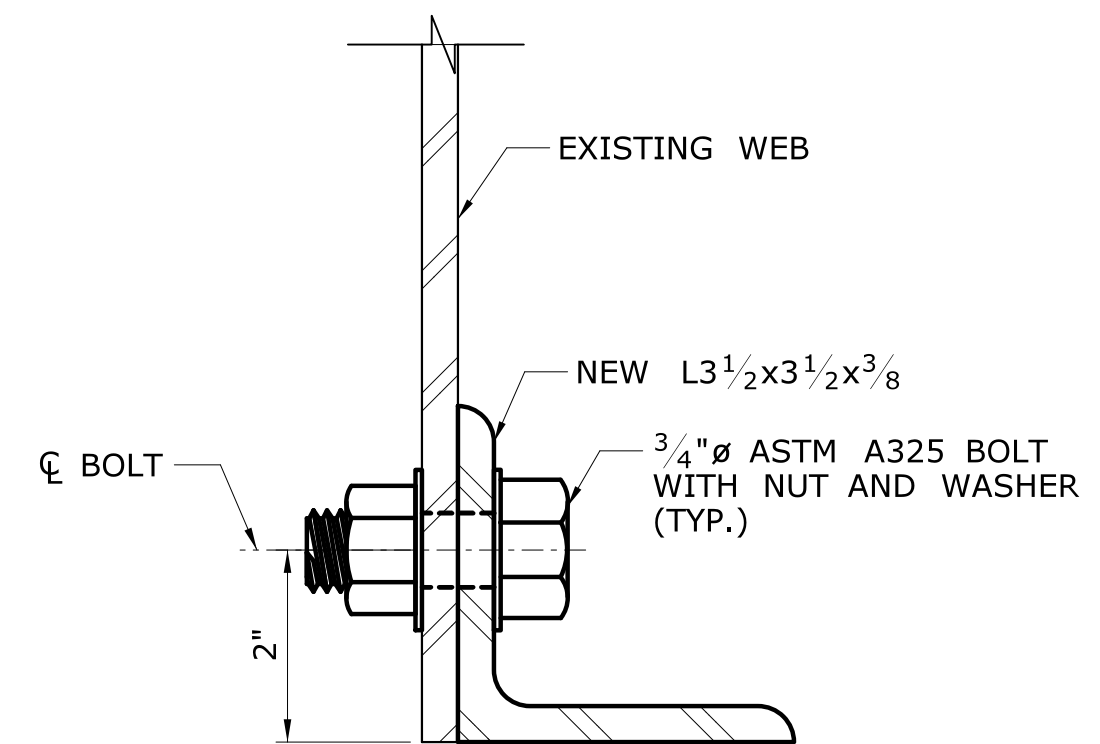
- FLOORBEAMS 5 & 8 SHALL BE REPAIRED.
- NEW ANGLE MEMBERS SHALL BE GROUND TO CLEAR FILLET AS REQUIRED.

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**FASCIA STRUT REPAIR DETAILS (ARCH 1)**  
**SOUTH ELEVATION**  
 SCALE: 1" = 1'-0"



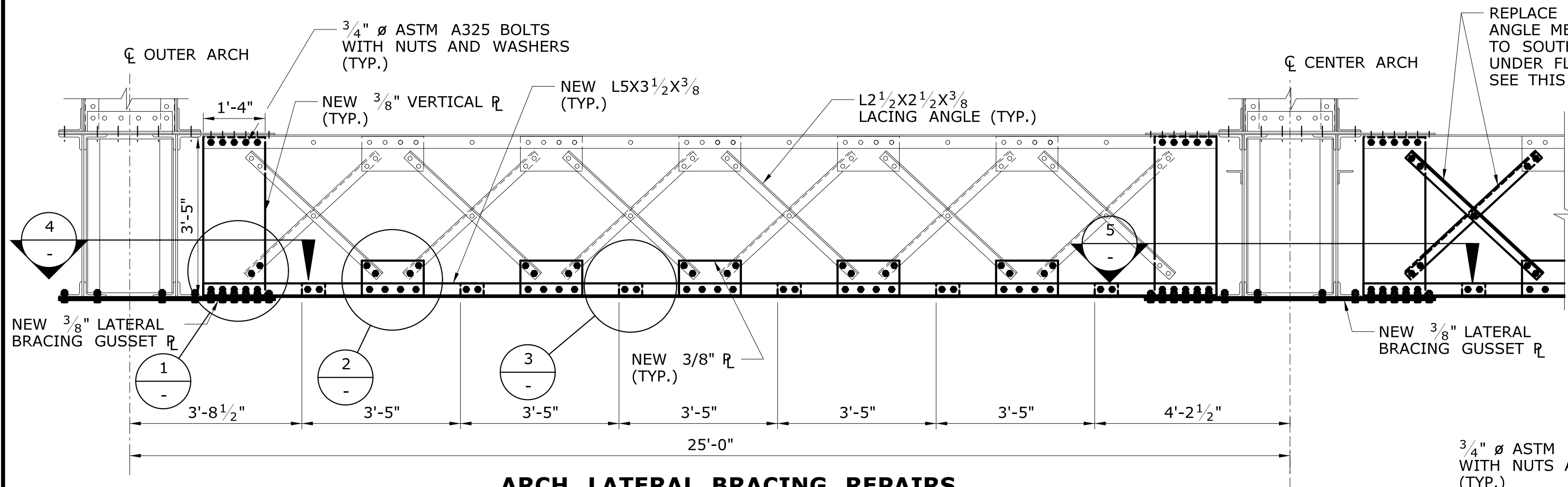
**1 SECTION**  
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**NOTES:**

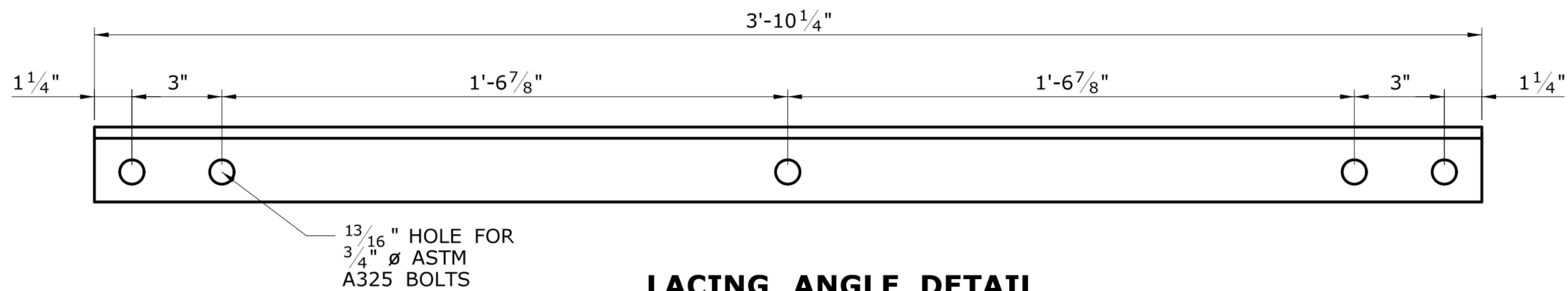
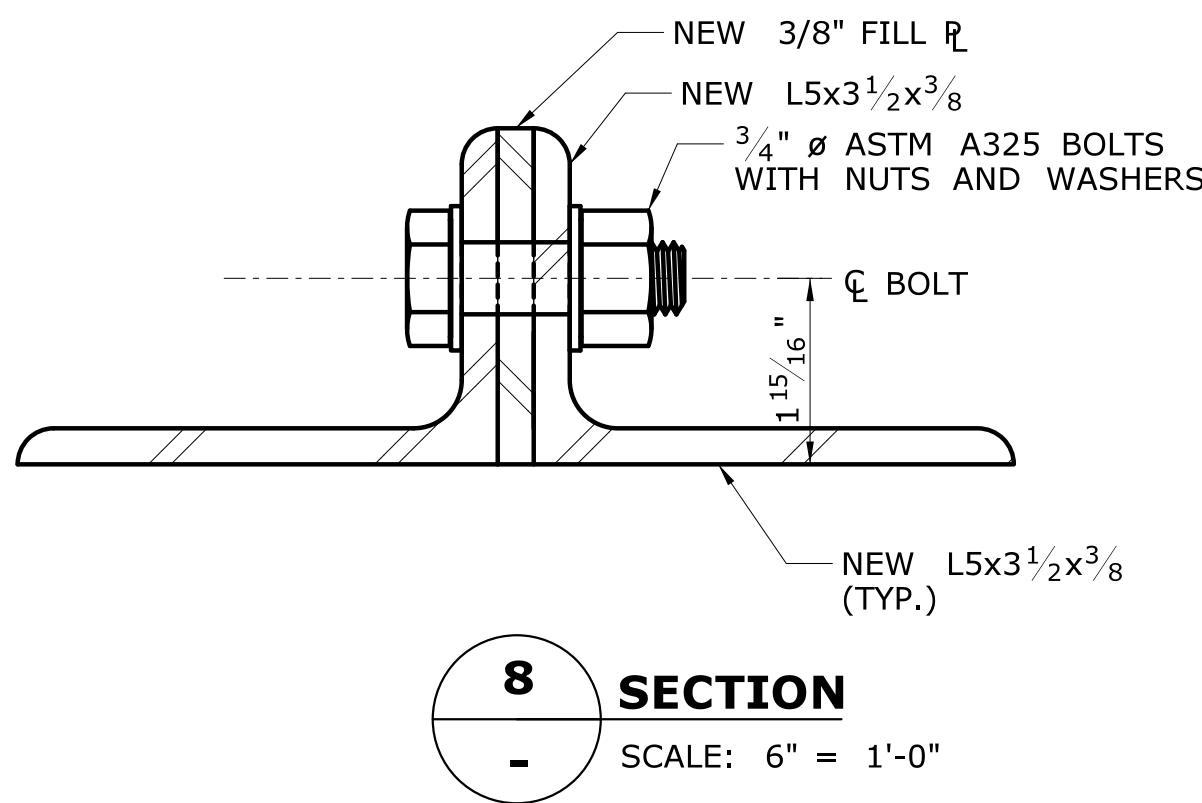
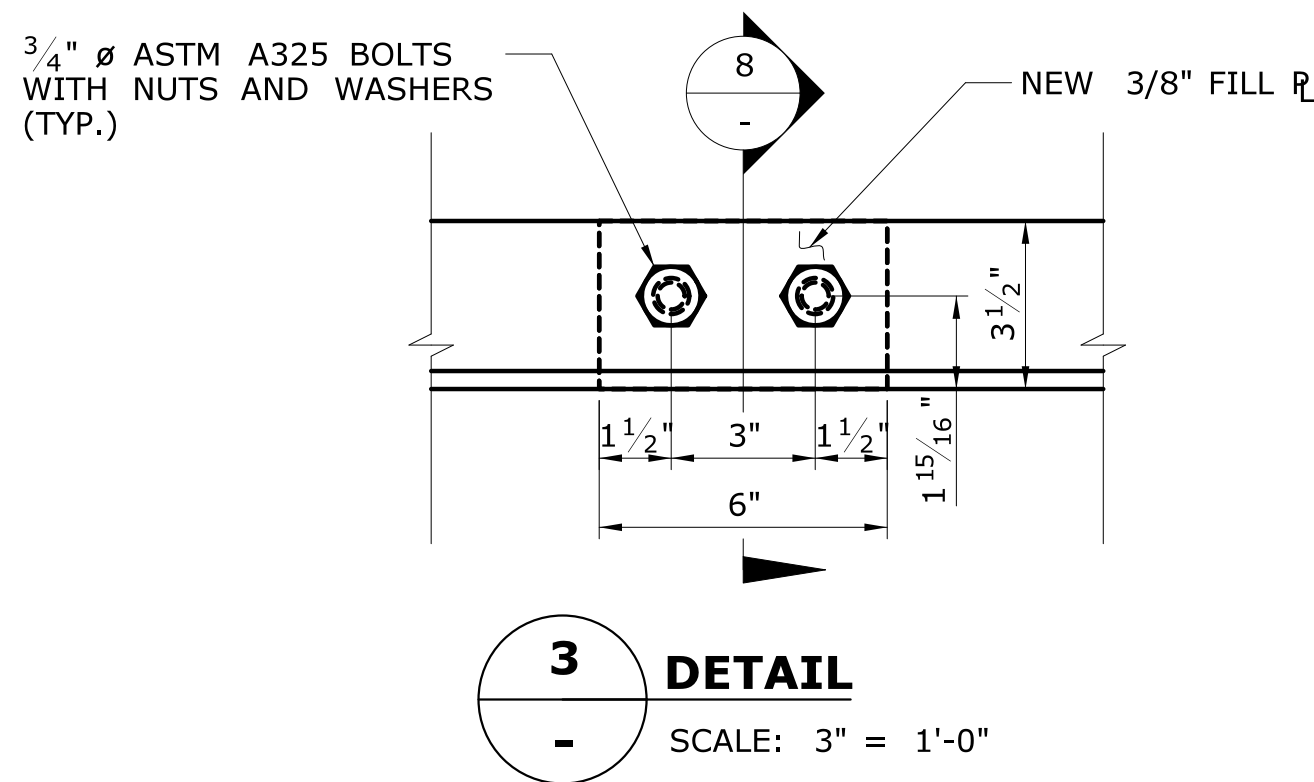
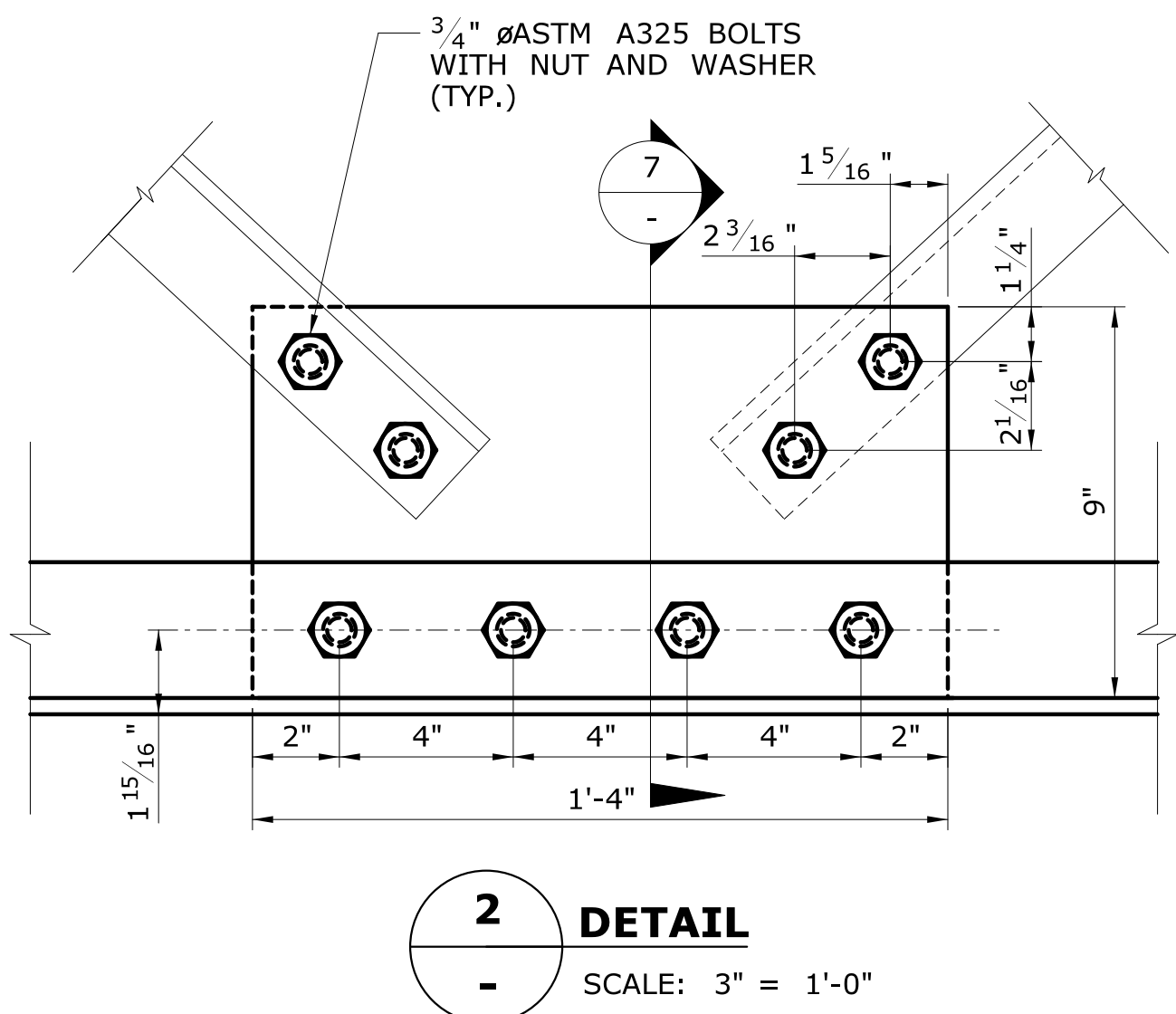
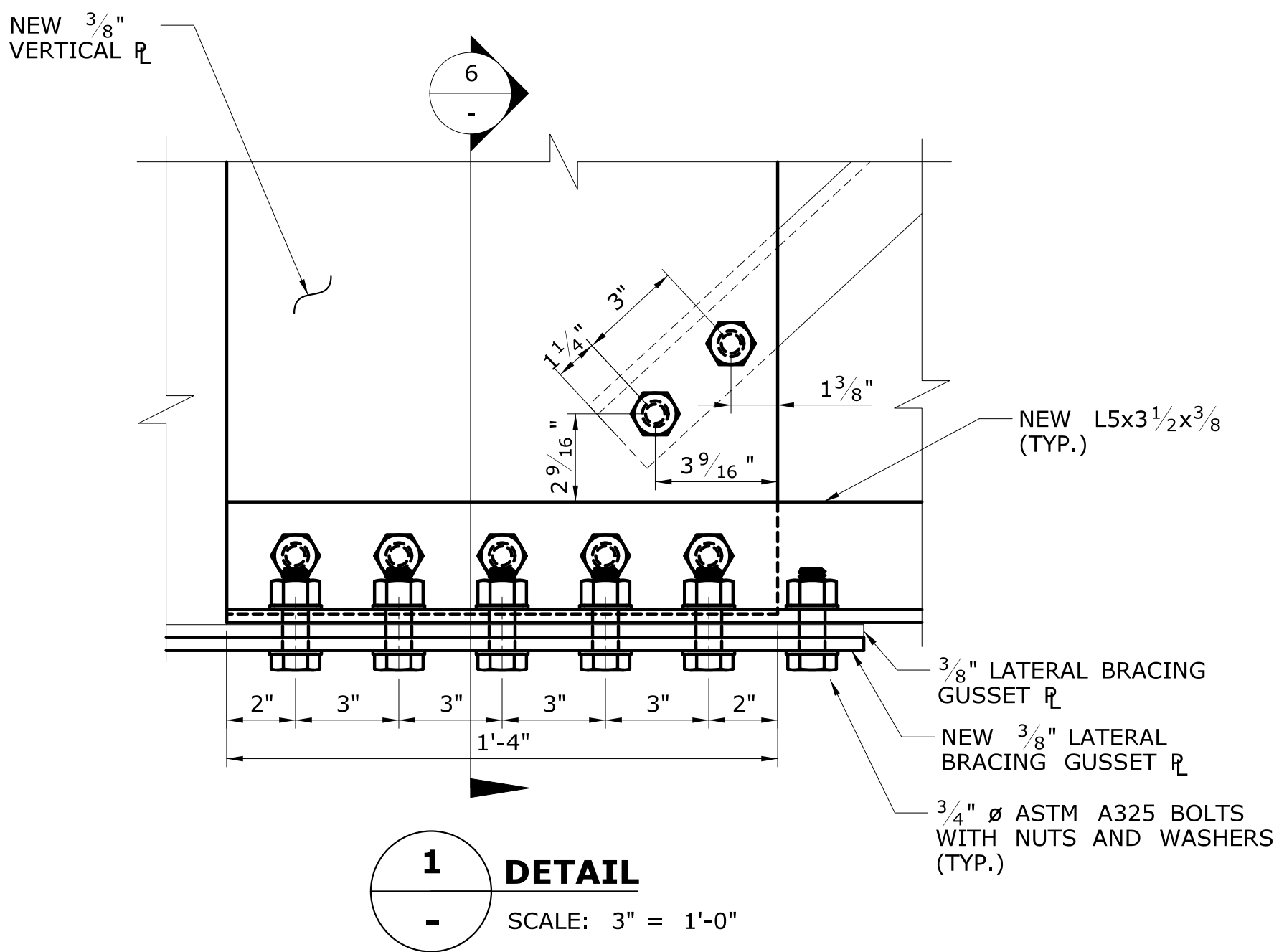
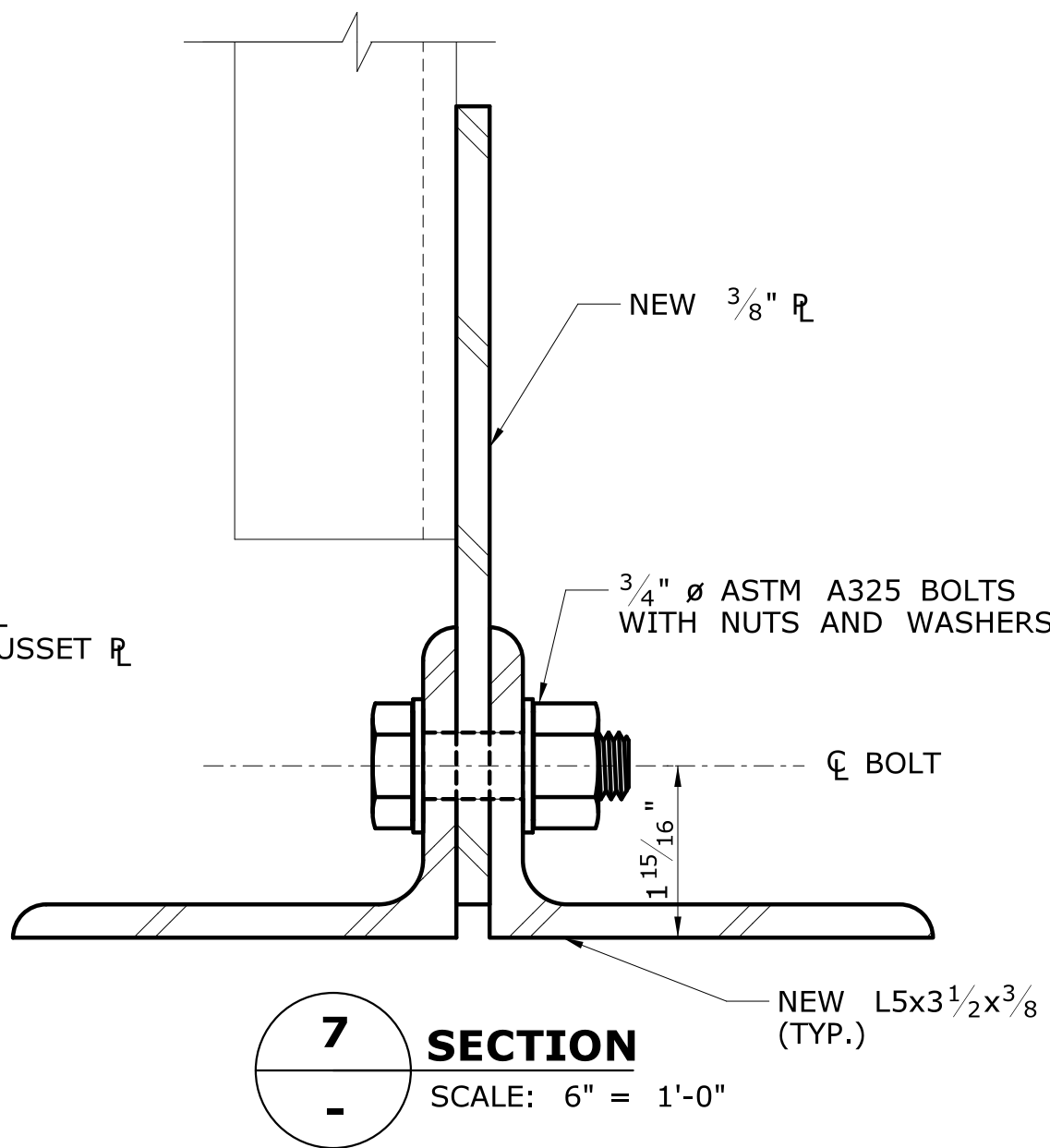
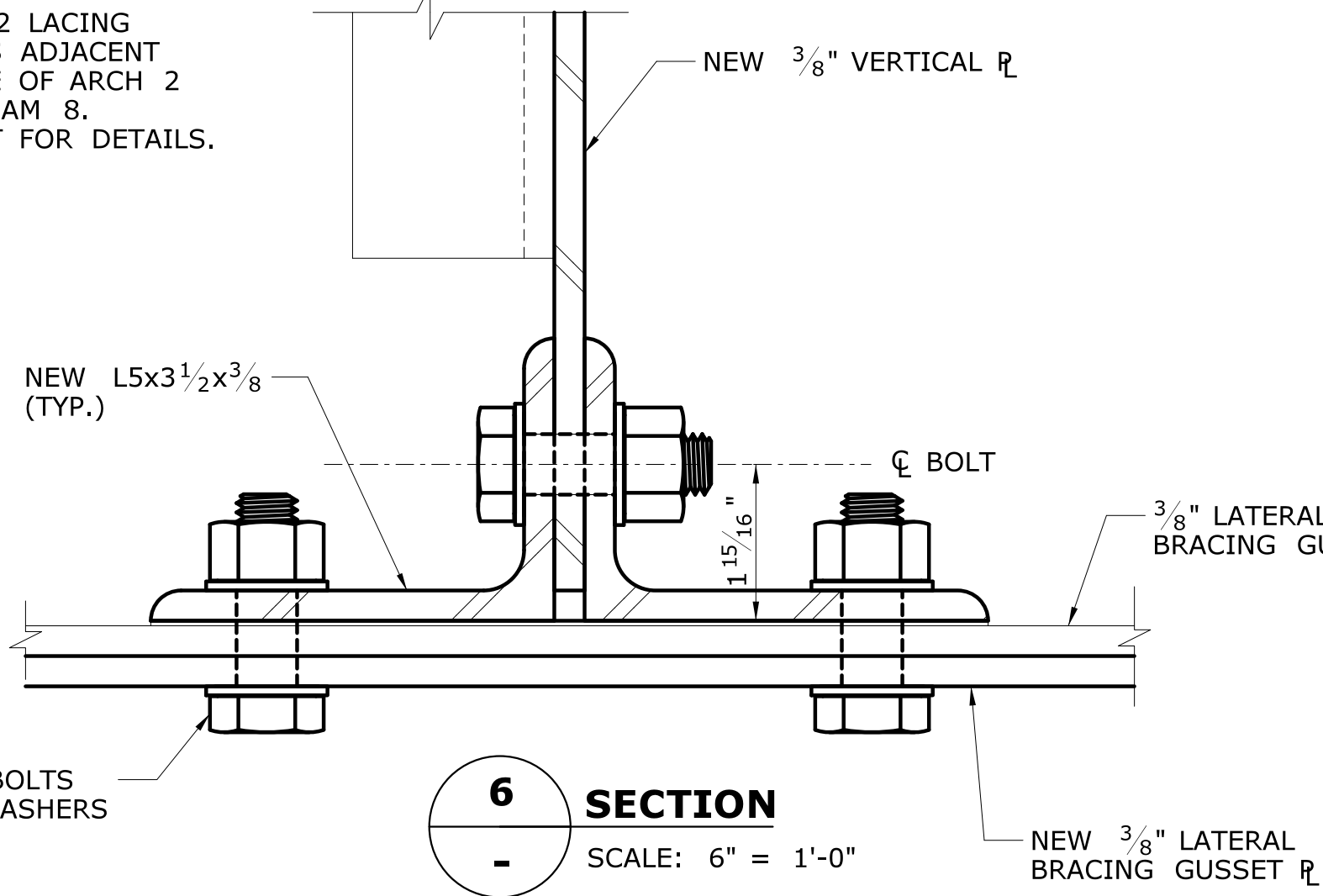
1. STRUT LOCATED ON EAST SIDE OF FLOOR BEAM 10 SHALL BE REPAIRED.

				THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.		DESIGNER/DRAFTER: <b>NRA</b>		 <b>STATE OF CONNECTICUT</b> <b>DEPARTMENT OF TRANSPORTATION</b>		SIGNATURE/ BLOCK:  GM2 ASSOCIATES, INC. 115 GLASTONBURY BLVD GLASTONBURY, CT 06033		PROJECT TITLE: <b>REHABILITATION OF BRIDGE 00728</b> <b>MERRITT PARKWAY</b> <b>OVER SAUGATUCK RIVER</b>		TOWN: <b>WESTPORT</b>		PROJECT NO. <b>158-207</b>	
						CHECKED BY: <b>JG</b>										DRAWING NO. <b>S-28</b>	
						SCALE AS NOTED										SHEET NO. <b>05.03.28</b>	
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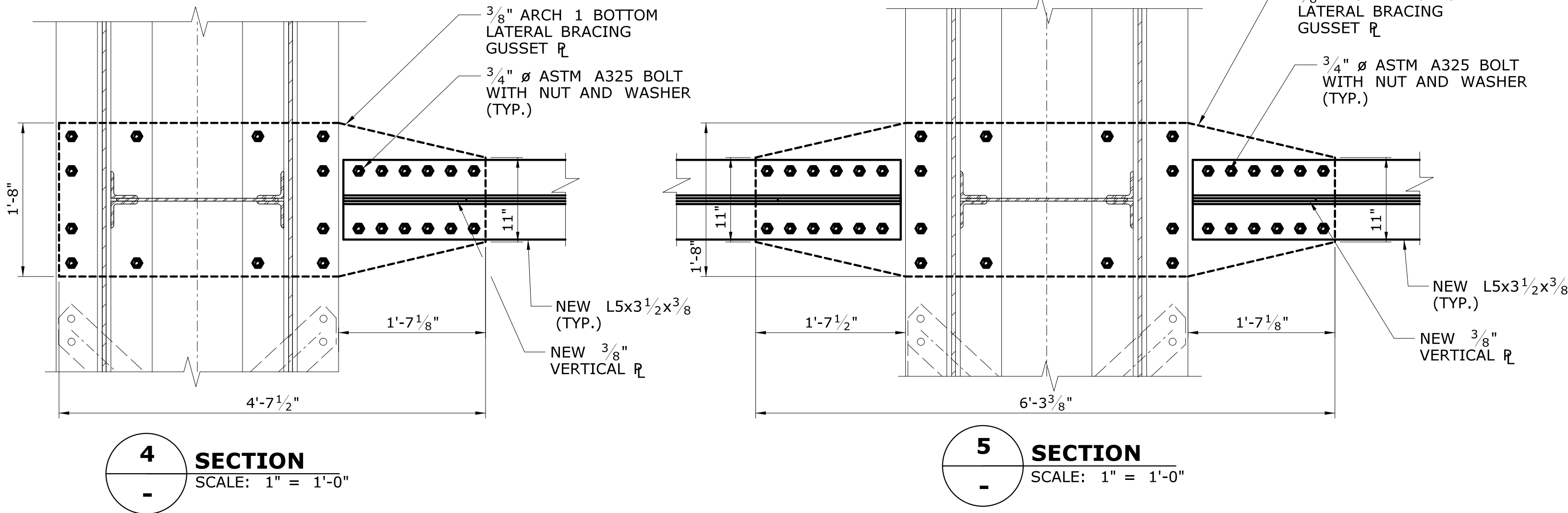




**ARCH LATERAL BRACING REPAIRS**  
SCALE: 1/2" = 1'-0"



- NOTES:**
1. REPAIRS SHALL BE PERFORMED UNDER FLOORBEAM 5 AND 8.
  2. REPLACE BOTTOM DOUBLE ANGLES, FILL PLATE, VERTICAL PLATE AND LACING ANGLES.
  3. REPLACE EXISTING FASTNERS.
  4. PLACE NEW BOTTOM GUSSET PLATE UNDER THE EXISTING GUSSET PLATE.

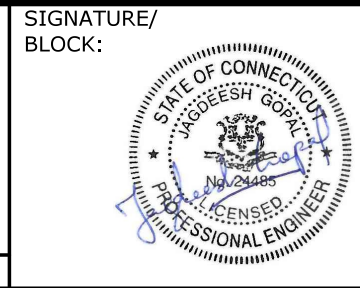
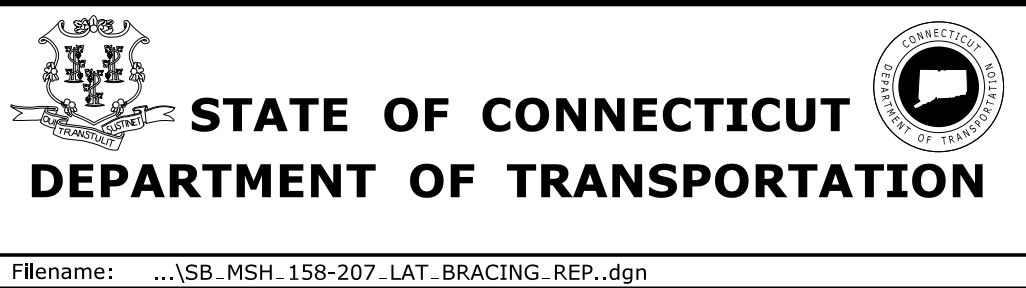


REV.	DATE	REVISION DESCRIPTION	SHEET NO.	Plotted Date: 7/6/2016

DESIGNER/DRAFTER:  
**NRA**

CHECKED BY:  
**JG**

SCALE AS NOTED



SIGNATURE/  
BLOCK:

PROJECT TITLE:

**REHABILITATION OF BRIDGE 00728**  
**MERRITT PARKWAY**  
**OVER SAUGATUCK RIVER**

TOWN:  
**WESTPORT**

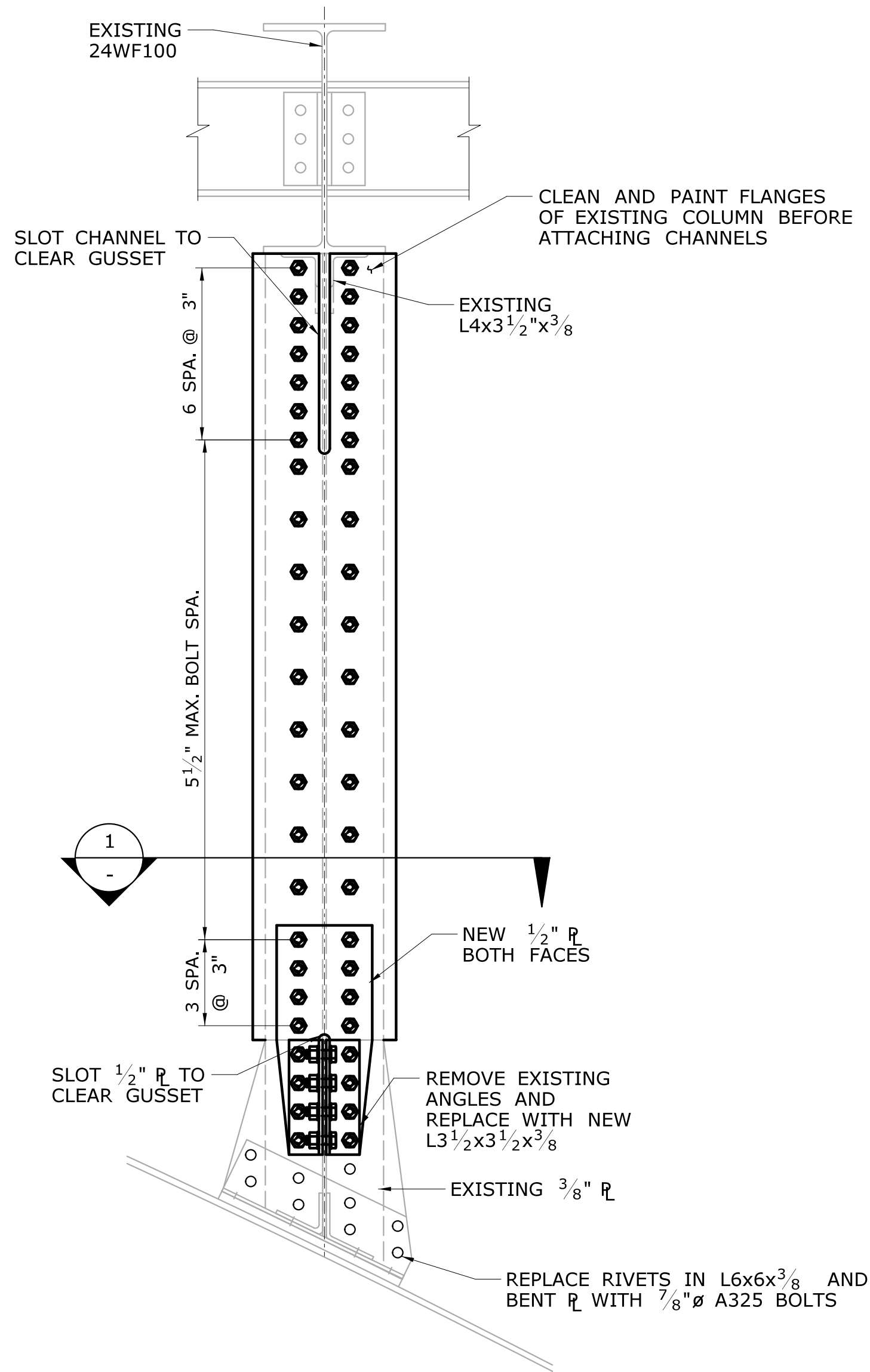
DRAWING TITLE:  
**ARCH LATERAL BRACING REPAIRS**

PROJECT NO.  
**158-207**

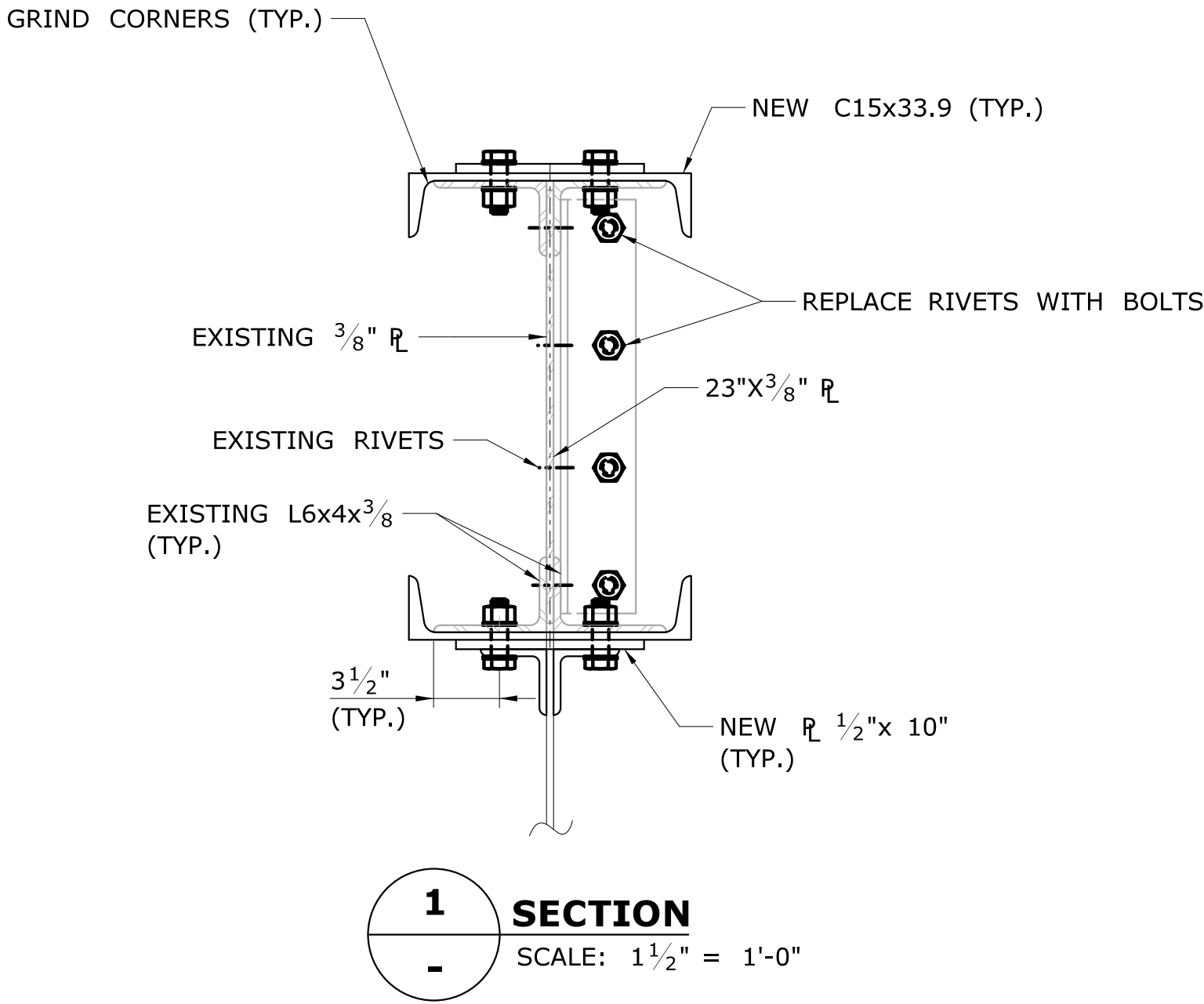
DRAWING NO.  
**S-29**

SHEET NO.  
**05.03.29**





**COLUMN FLANGE REPAIRS**  
SCALE: 1" = 1'-0"



**NOTES:**


1. THE SPANDREL COLUMNS SHALL BE REPAIRED PRIOR TO STAGE CONSTRUCTION.
2. COLUMN 11-1 AND 11-3 ARE TO BE REPAIRED.
3. REPAIR IS TO BE COMPLETED ON ONE SIDE OF COLUMN BEFORE BEGINNING WORK ON OTHER SIDE.
4. ALL BOLTS ARE TO BE 7/8" DIA. ASTM A325.


REV.	DATE	REVISION DESCRIPTION	SHEET NO.

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.


Plotted Date: 7/6/2016

DESIGNER/DRAFTER:  
**NRA**  
CHECKED BY:  
**JG**  
SCALE AS NOTED

**STATE OF CONNECTICUT  
DEPARTMENT OF TRANSPORTATION**



Filename: ...\\SB\_MSH\_158-207\_COL\_REP.dgn

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BLOCK:  


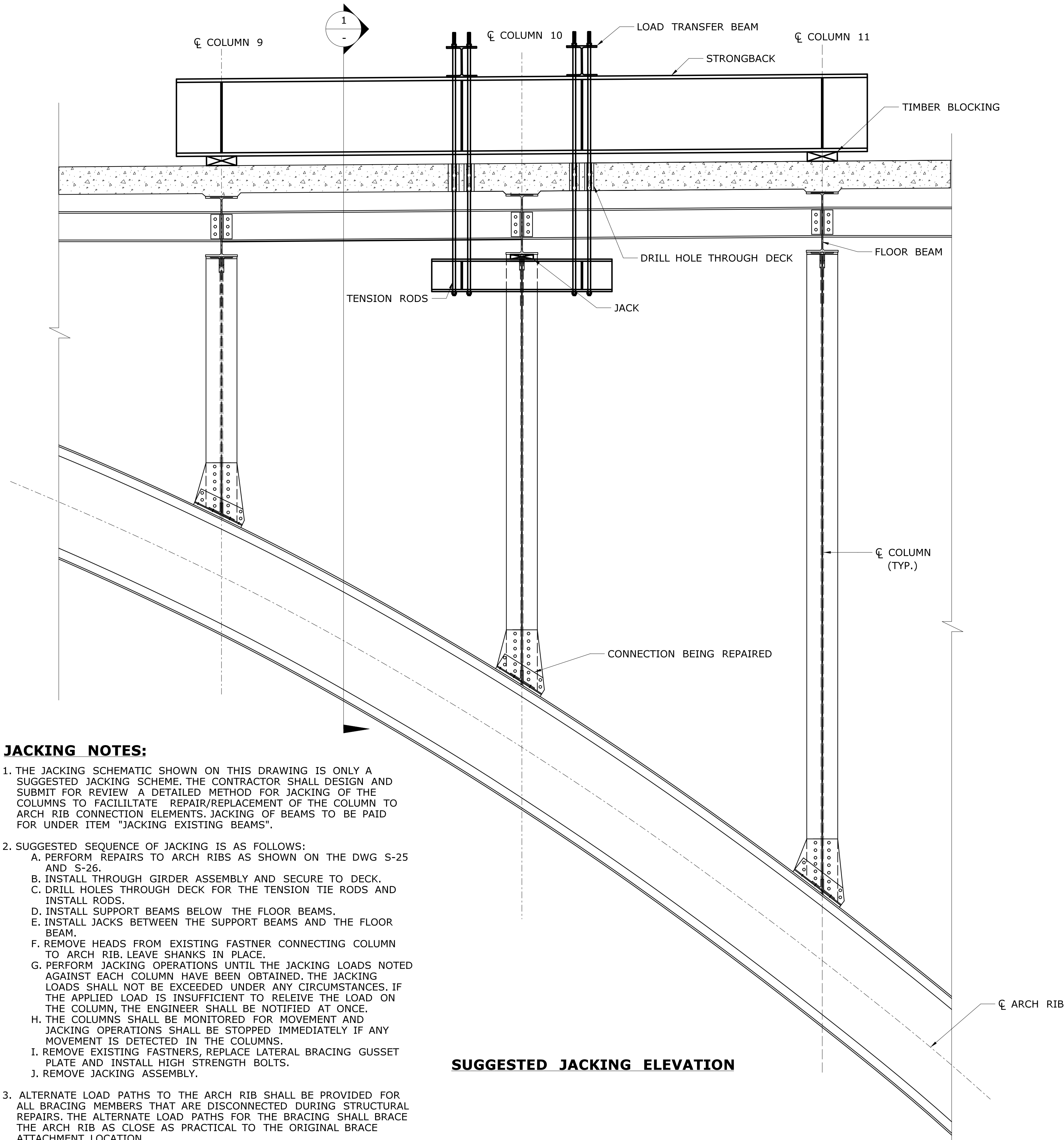
GM2 ASSOCIATES, INC.  
115 GLASTONBURY BLVD.  
GLASTONBURY, CT 06033

PROJECT TITLE:  
**REHABILITATION OF BRIDGE 00728  
MERRITT PARKWAY  
OVER SAUGATUCK RIVER**

TOWN:  
**WESTPORT**  
DRAWING TITLE:  
**COLUMN REPAIRS**

PROJECT NO.  
**158-207**  
DRAWING NO.  
**S-30**  
SHEET NO.  
**05.03.30**

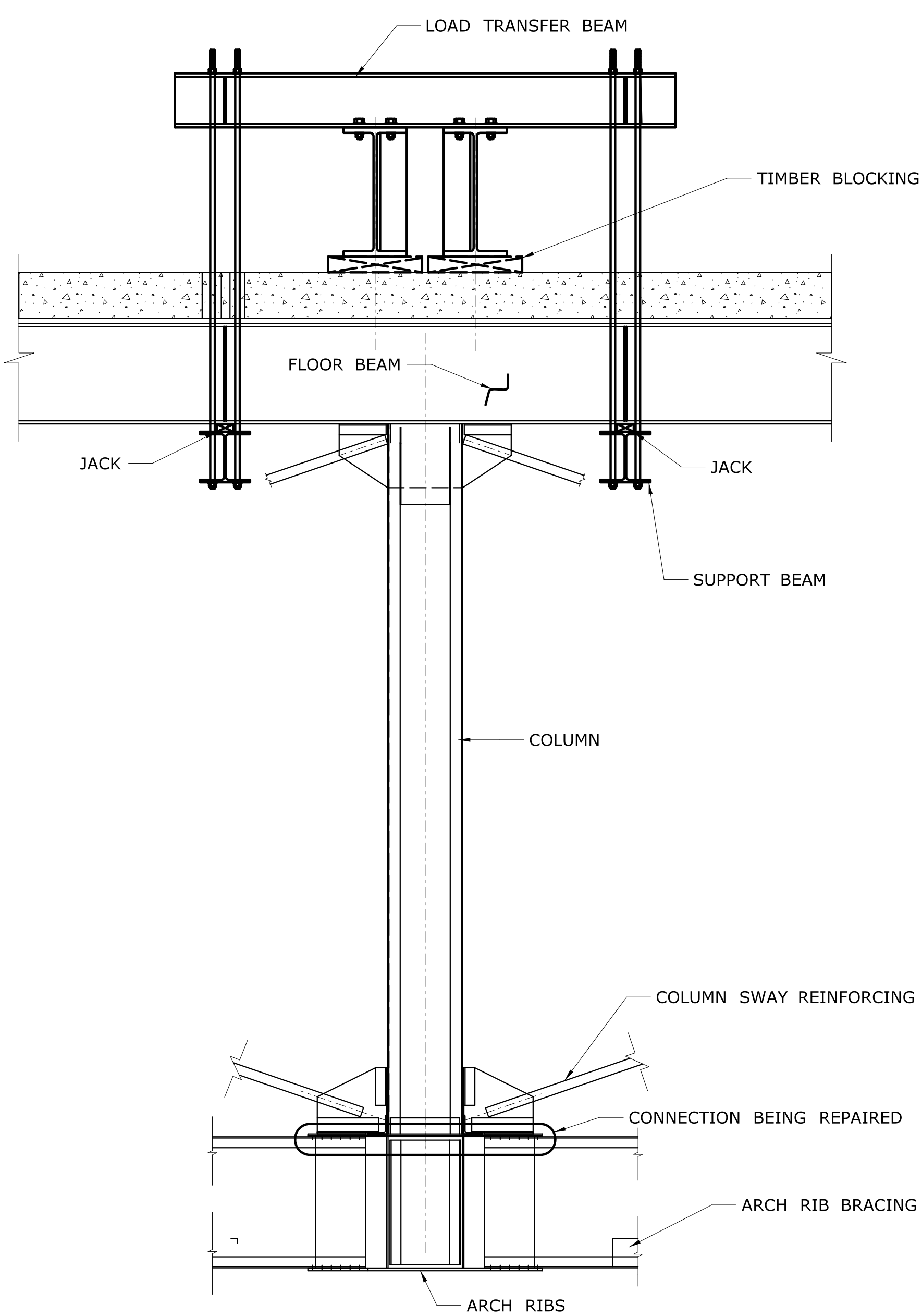




**JACKING NOTES:**

1. THE JACKING SCHEMATIC SHOWN ON THIS DRAWING IS ONLY A SUGGESTED JACKING SCHEME. THE CONTRACTOR SHALL DESIGN AND SUBMIT FOR REVIEW A DETAILED METHOD FOR JACKING OF THE COLUMNS TO FACILITATE REPAIR/REPLACEMENT OF THE COLUMN TO ARCH RIB CONNECTION ELEMENTS. JACKING OF BEAMS TO BE PAID FOR UNDER ITEM "JACKING EXISTING BEAMS".
2. SUGGESTED SEQUENCE OF JACKING IS AS FOLLOWS:
  - A. PERFORM REPAIRS TO ARCH RIBS AS SHOWN ON THE DWG S-25 AND S-26.
  - B. INSTALL THROUGH GIRDER ASSEMBLY AND SECURE TO DECK.
  - C. DRILL HOLES THROUGH DECK FOR THE TENSION TIE RODS AND INSTALL RODS.
  - D. INSTALL SUPPORT BEAMS BELOW THE FLOOR BEAMS.
  - E. INSTALL JACKS BETWEEN THE SUPPORT BEAMS AND THE FLOOR BEAM.
  - F. REMOVE HEADS FROM EXISTING FASTNER CONNECTING COLUMN TO ARCH RIB. LEAVE SHANKS IN PLACE.
  - G. PERFORM JACKING OPERATIONS UNTIL THE JACKING LOADS NOTED AGAINST EACH COLUMN HAVE BEEN OBTAINED. THE JACKING LOADS SHALL NOT BE EXCEEDED UNDER ANY CIRCUMSTANCES. IF THE APPLIED LOAD IS INSUFFICIENT TO RELIEVE THE LOAD ON THE COLUMN, THE ENGINEER SHALL BE NOTIFIED AT ONCE.
  - H. THE COLUMNS SHALL BE MONITORED FOR MOVEMENT AND JACKING OPERATIONS SHALL BE STOPPED IMMEDIATELY IF ANY MOVEMENT IS DETECTED IN THE COLUMNS.
  - I. REMOVE EXISTING FASTNERS, REPLACE LATERAL BRACING GUSSET PLATE AND INSTALL HIGH STRENGTH BOLTS.
  - J. REMOVE JACKING ASSEMBLY.
3. ALTERNATE LOAD PATHS TO THE ARCH RIB SHALL BE PROVIDED FOR ALL BRACING MEMBERS THAT ARE DISCONNECTED DURING STRUCTURAL REPAIRS. THE ALTERNATE LOAD PATHS FOR THE BRACING SHALL BRACE THE ARCH RIB AS CLOSE AS PRACTICAL TO THE ORIGINAL BRACE ATTACHMENT LOCATION.

**SUGGESTED JACKING ELEVATION**




**1 SECTION**  
SCALE: 1/2" = 1'-0"

JACKING LOADS (kips)		
LOCATION	DL	LL+IM
COLUMN 3-1, 3-2, 3-3, 10-1, 10-2 & 10-3	75.0	63.5

REV.	DATE	REVISION DESCRIPTION	SHEET NO.


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Plotted Date: 7/6/2016

DESIGNER/DRAFTER: <b>GPG</b>
CHECKED BY: <b>JG</b>
SCALE AS NOTED



**STATE OF CONNECTICUT**  
**DEPARTMENT OF TRANSPORTATION**

Filename: ...\\SB\_MSH-158-207\_GUSSET PLATE REPAIRS (1 OF 2).dgn



SIGNATURE/  
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GM2 ASSOCIATES, INC.  
115 GLASTONBURY BLVD  
GLASTONBURY, CT 06033

PROJECT TITLE:  
**REHABILITATION OF BRIDGE 00728**  
**MERRITT PARKWAY**  
**OVER SAUGATUCK RIVER**

TOWN:  
**WESTPORT**

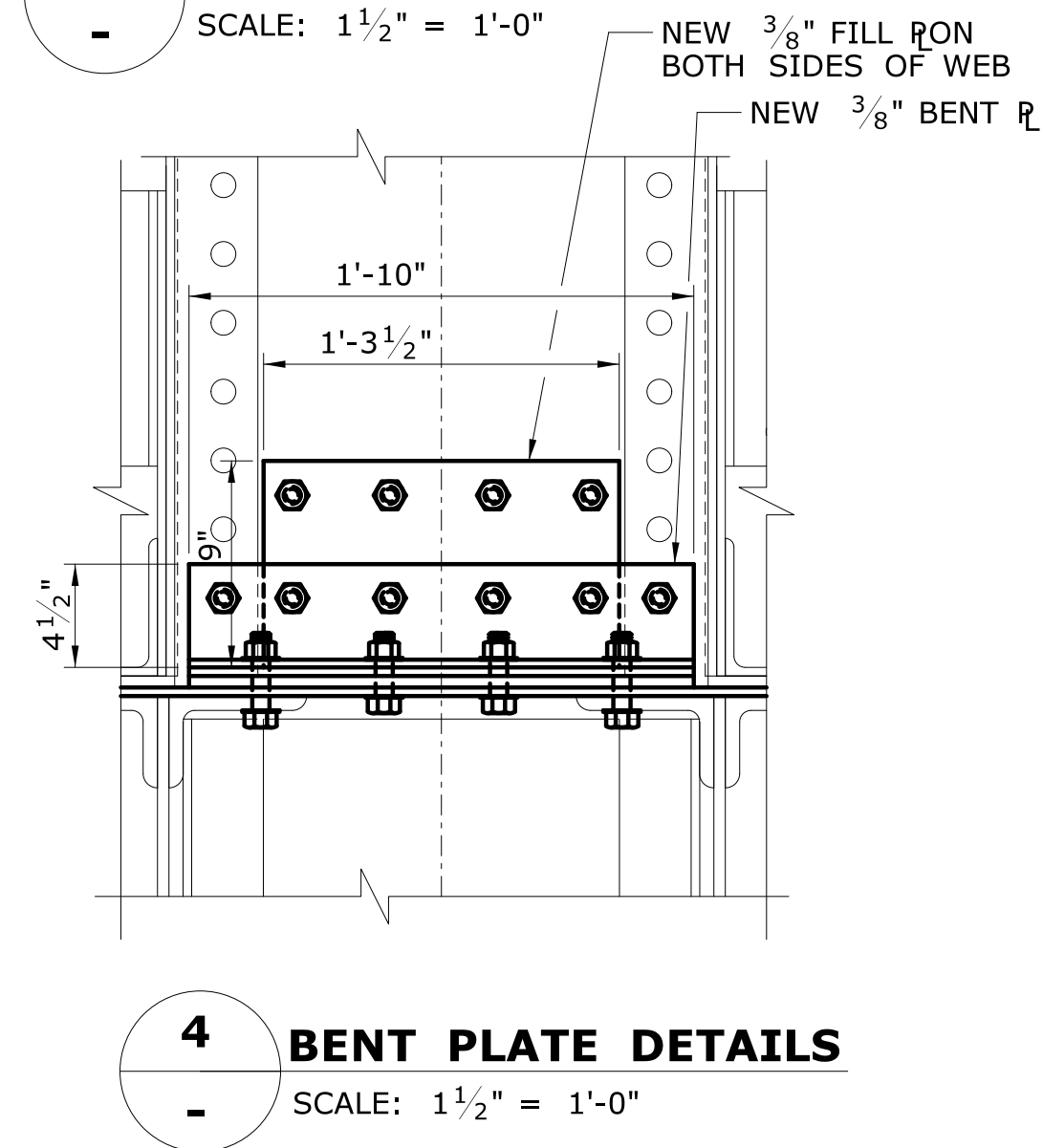
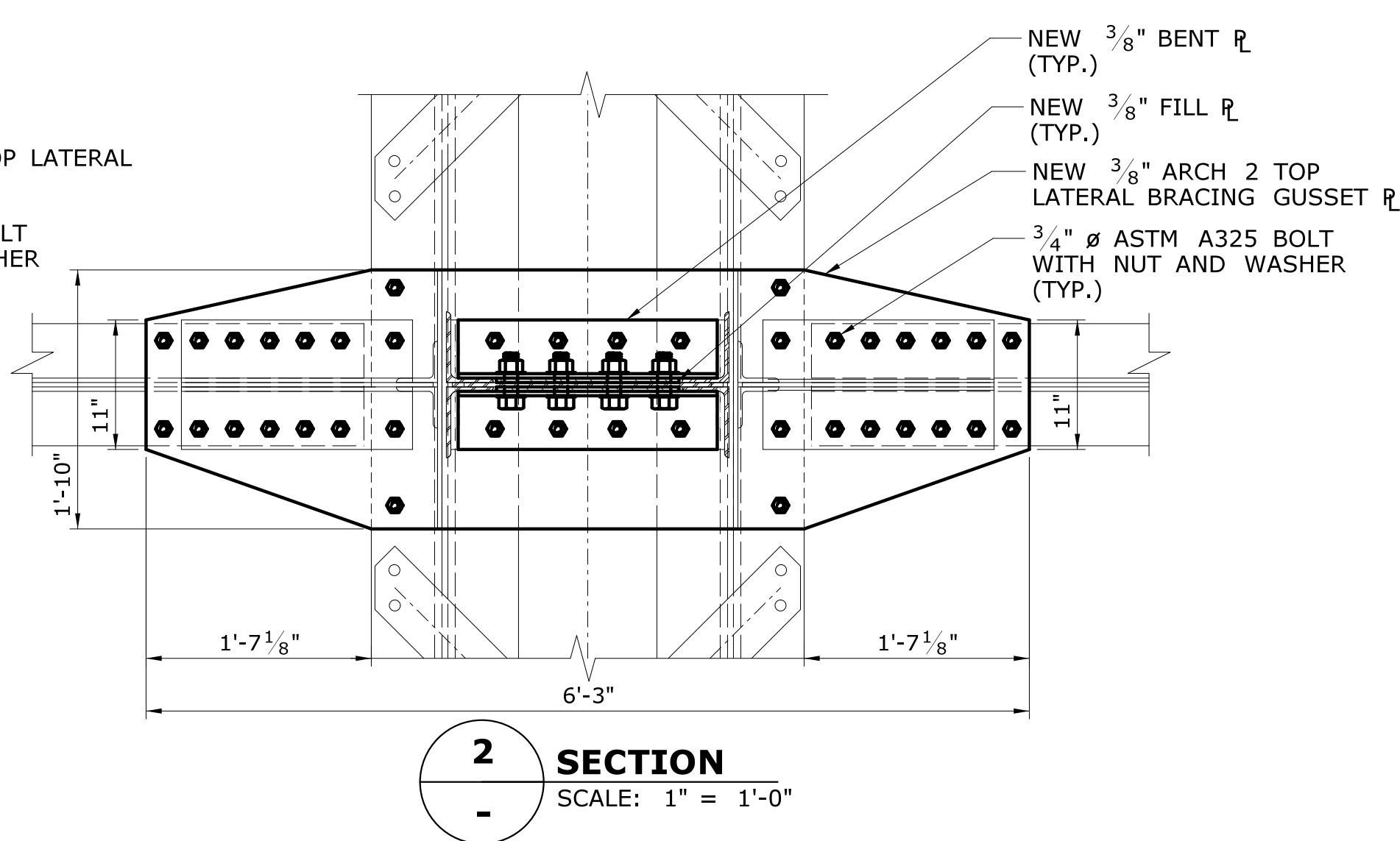
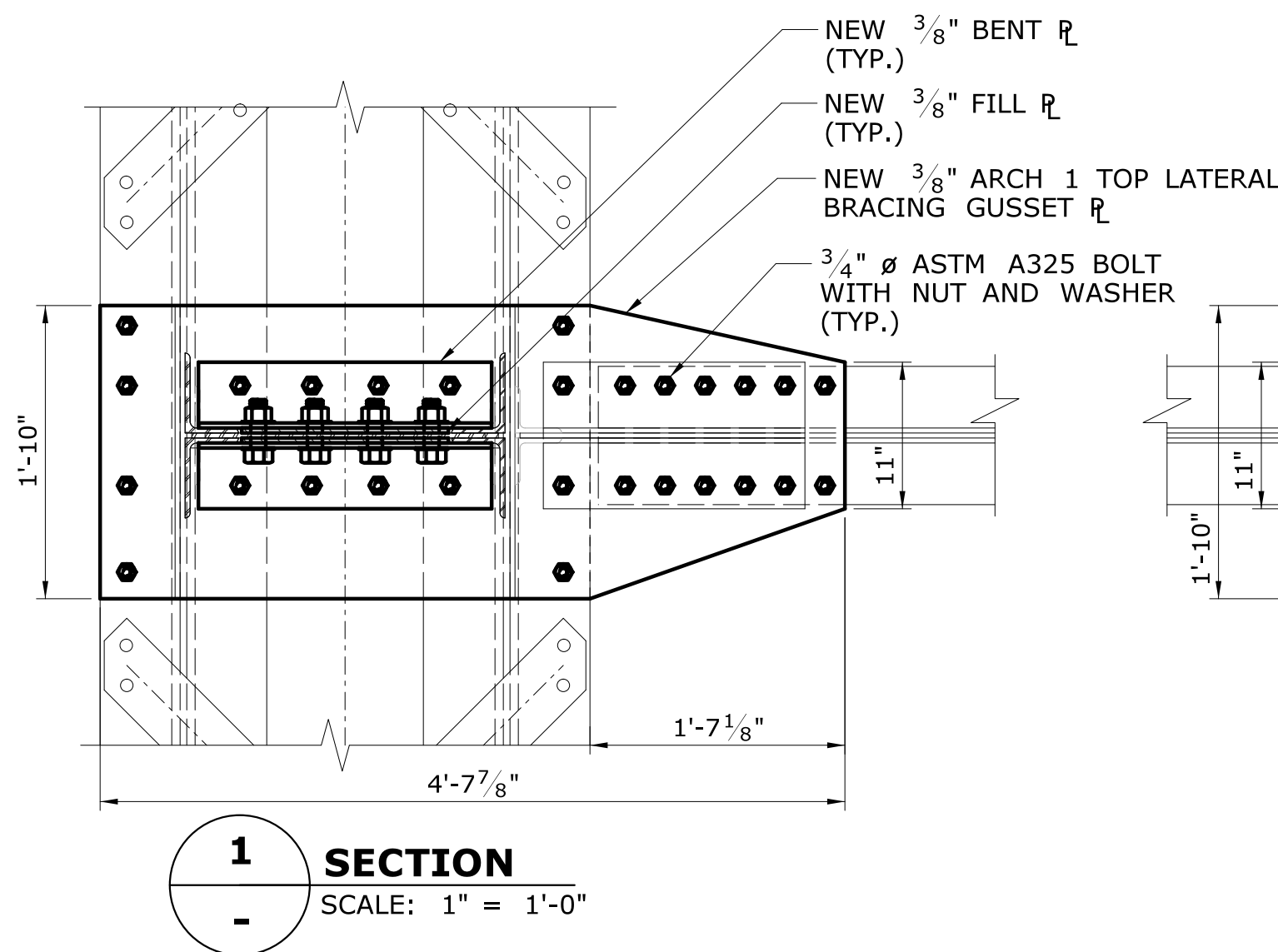
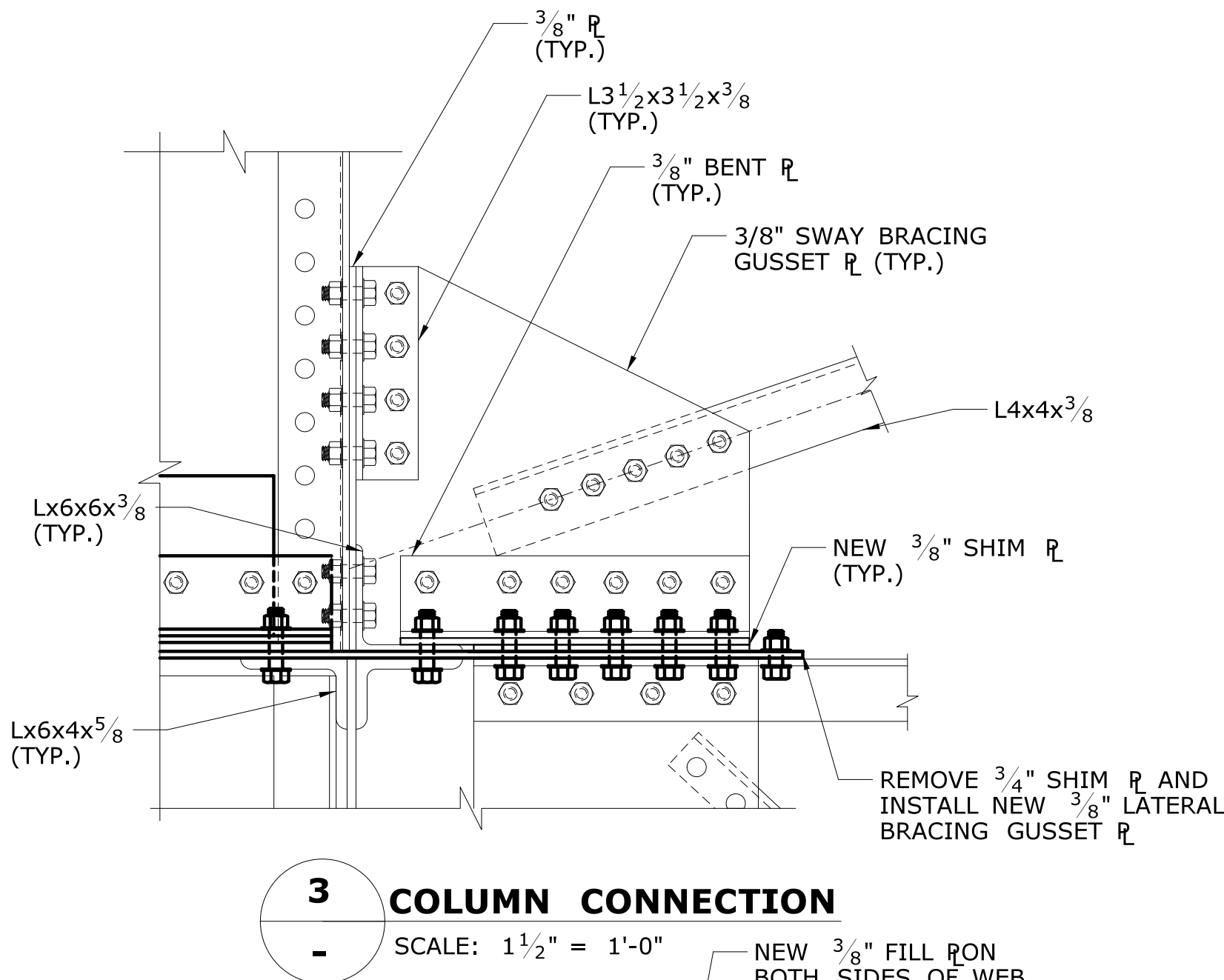
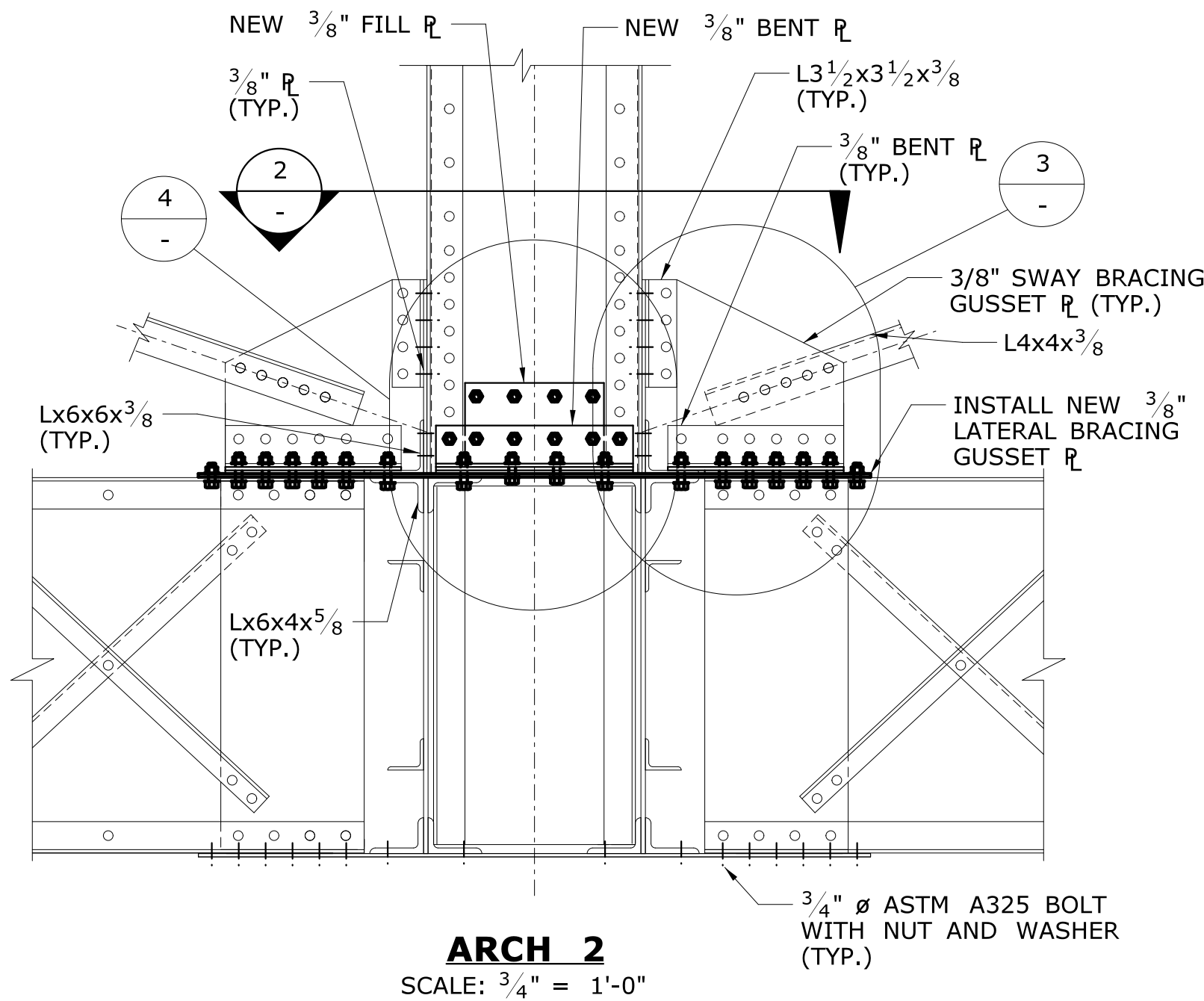
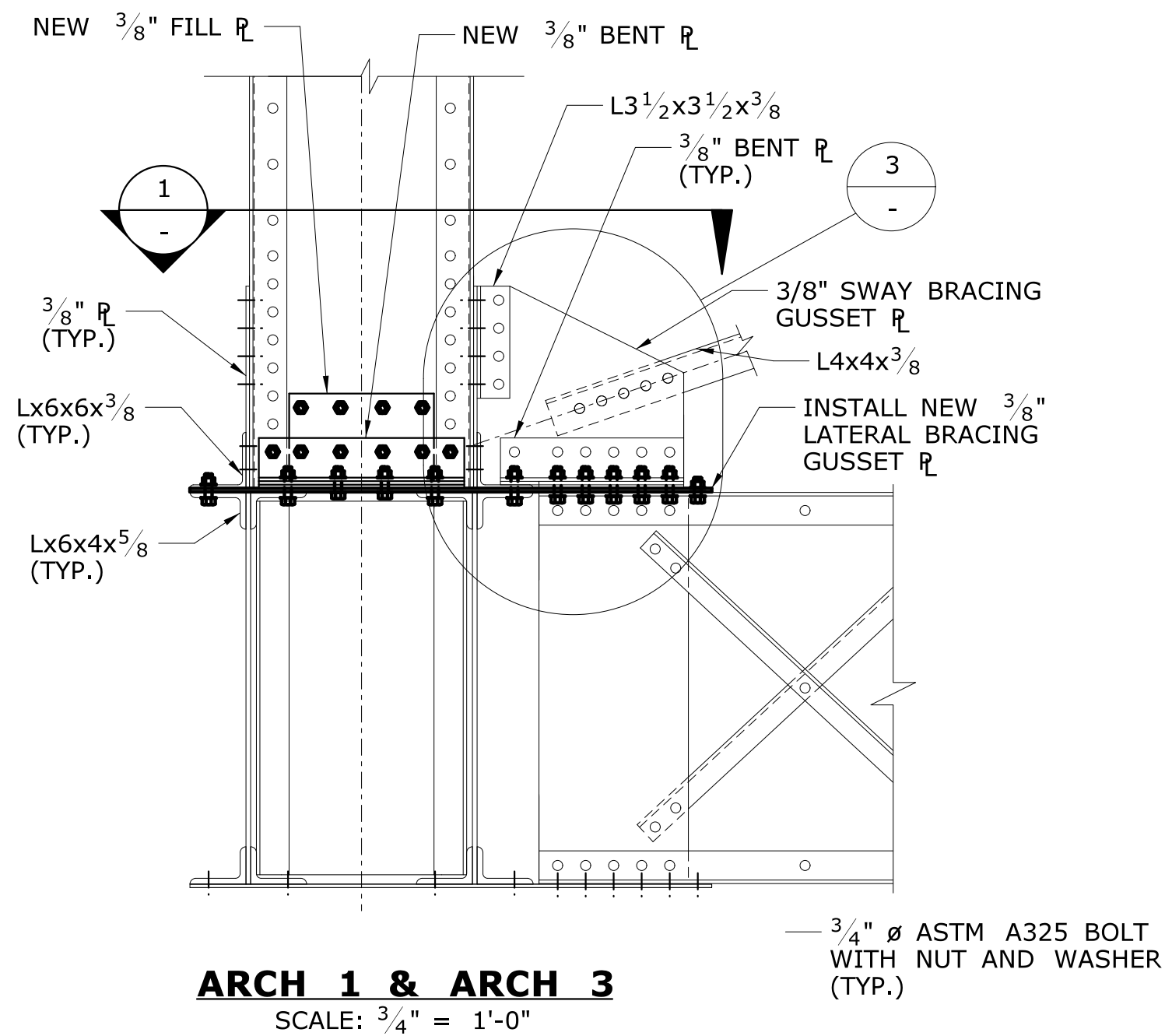
DRAWING TITLE:  
**CONNECTION**  
**REPAIRS (1 OF 2)**

PROJECT NO.  
**158-207**

DRAWING NO.  
**S-31**

SHEET NO.  
**05.03.31**







#### NOTES:

- PERFORM CONNECTION REPAIR ONE LOCATION AT A TIME DURING STAGE CONSTRUCTION.
- SUGGESTED SEQUENCE OF CONNECITON REPAIRS
  - REMOVE EXISTING FASTENERS.
  - JACK THE COLUMN AS SHOWN IN DWG S-31.
  - REMOVE EXISTING BENT PLATES AND FILL PLATES.
  - REMOVE EXISTING SHIMS AND GUSSET PLATE.
  - APPLY HRCSA PENETRANT/SEALER ON CONTACT SURFACES BETWEEN STEEL MEMBERS.
  - PLACE  $\frac{3}{8}"$  SHIM PLATES AND  $\frac{3}{8}"$  GUSSET PLATE.
  - SANDWICH THE DETERIORATED COLUMN WEB WITH NEW  $\frac{3}{8}"$  PLATES ON BOTH SIDES OF THE COLUMN.
  - PLACE THE NEW  $\frac{3}{8}"$  BENT PLATES AND INSTALL BOLTS.
  - JACK DOWN THE COLUMN AND TIGHTEN HIGH STRENGTH BOLTS TO COMPLETE CONNECTION REPAIR.
  - REMOVE JACKING ASSEMBLY.
- ALTERNATE LOAD PATHS TO THE ARCH RIB SHALL BE PROVIDED FOR ALL BRACING MEMBERS THAT ARE DISCONNECTED DURING STRUCTURAL REPAIRS. THE ALTERNATE LOAD PATHS FOR THE BRACING SHALL BRACE THE ARCH RIB AS CLOSE AS PRACTICAL TO THE ORIGINAL BRACE ATTACHMENT LOCATION.

REV.	DATE	REVISION DESCRIPTION	SHEET NO.	Plotted Date: 7/6/2016

DESIGNER/DRAFTER: <b>SC/NRA</b>
CHECKED BY: <b>JG</b>
SCALE AS NOTED

 <b>STATE OF CONNECTICUT</b> <b>DEPARTMENT OF TRANSPORTATION</b>
Filename: ...\\SB_MSH_158-207_GUSSET PLATE REPAIRS (2 OF 2).dgn

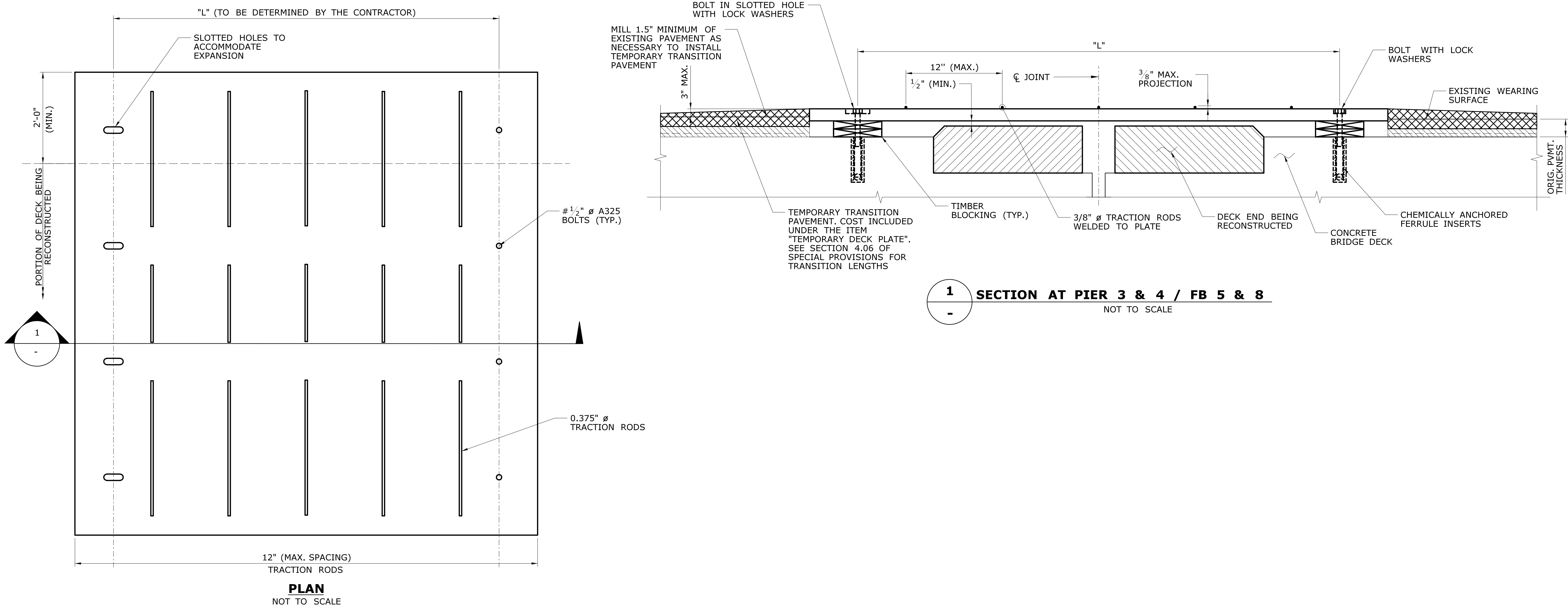
SIGNATURE/ BLOCK:


GM2 ASSOCIATES, INC.  
115 GLASTONBURY BLVD  
GLASTONBURY, CT 06033

PROJECT TITLE:
<b>REHABILITATION OF BRIDGE 00728</b> <b>MERRITT PARKWAY</b> <b>OVER SAUGATUCK RIVER</b>

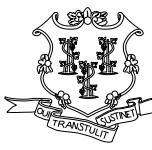
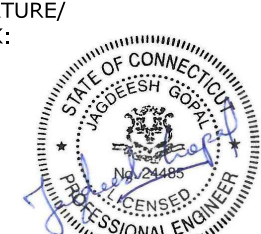
TOWN:
<b>WESTPORT</b>
DRAWING TITLE:
<b>CONNECTION</b> <b>REPAIRS (2 OF 2)</b>
PROJECT NO.
<b>158-207</b>
DRAWING NO.
<b>S-32</b>
SHEET NO.
<b>05.03.32</b>



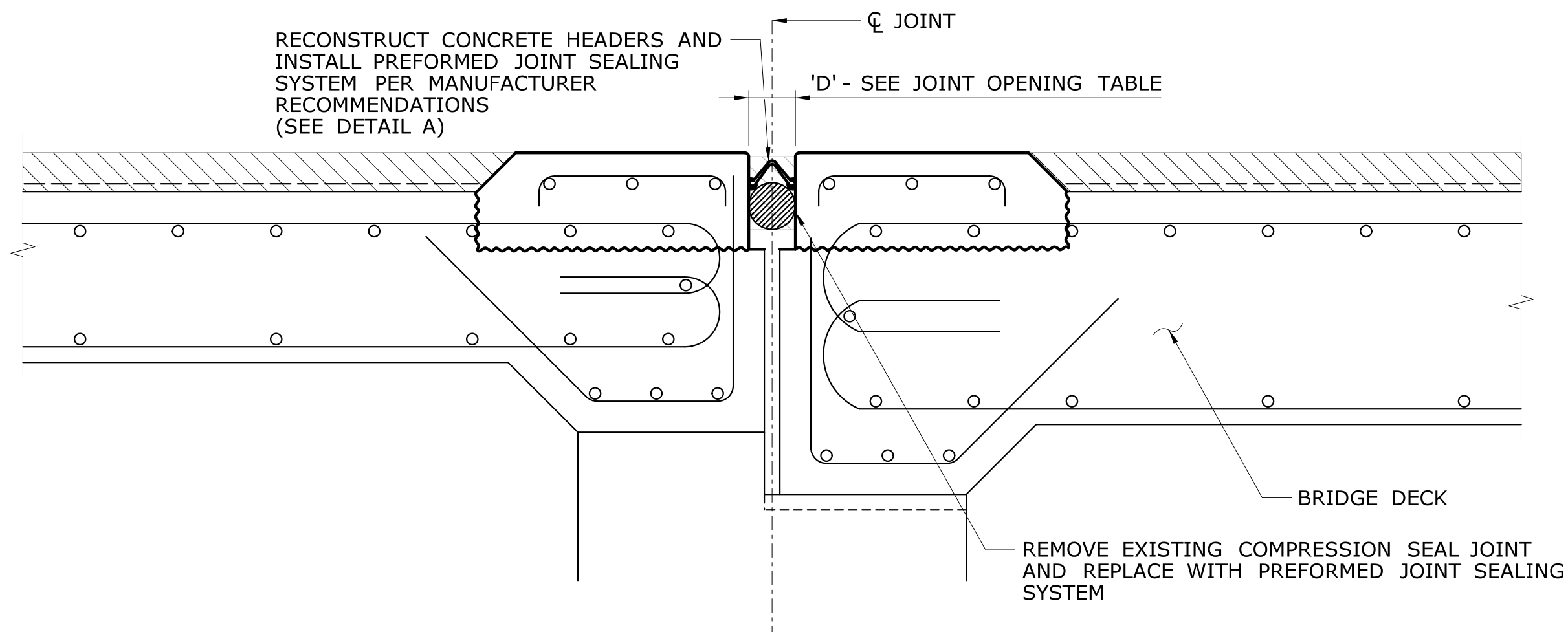


TEMPORARY BRIDGING PLATE NOTES

1. LONG DURATION STAGED CONSTRUCTION IS NOT ALLOWED. CONSTRUCTION OF JOINTS SHALL OCCUR DURING OFF-PEAK HOURS. THE ROADWAY SHALL BE OPENED TO TRAFFIC DURING PEAK HOURS IN ACCORDANCE WITH THE SPECIAL PROVISION "PROSECUTION AND PROGRESS".
2. A SUGGESTED DETAIL FOR THE TEMPORARY BRIDGING PLATE IS SHOWN ON THIS SHEET. THE CONTRACTOR SHALL DESIGN AND DETAIL A METHOD TO MAINTAIN TRAFFIC DURING PEAK HOURS USING A TEMPORARY REMOVABLE STEEL BRIDGING PLATE AND SUBMIT THE DESIGN AND CALCULATIONS FOR REVIEW. THE DESIGN SHALL BE STAMPED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF CONNECTICUT.
3. THE TEMPORARY STEEL BRIDGING PLATE SHALL BE PAID FOR UNDER THE ITEM "TEMPORARY DECK PLATE". THIS ITEM INCLUDES THE COST OF ALL NECESSARY WORK REQUIRED TO INSTALL, MAINTAIN AND REMOVE THE TEMPORARY BRIDGING PLATE.
4. THE DESIGN SHOULD SATISFY THE FOLLOWING CONDITIONS AT A MINIMUM:
  - A. THE PLATE SHOULD BE REMOVABLE AND RE-INSTALLABLE.
  - B. LOCK-WASHERS OR OTHER MEANS SHOULD BE USED TO PREVENT THE BOLTS FROM COMING LOOSE DUE TO THE DYNAMIC EFFECTS OF VEHICULAR TRAFFIC
  - C. THE PLATE SHOULD BE ABLE TO ACCOMMODATE THE ANTICIPATED THERMAL MOVEMENT THAT IS LIKELY TO OCCUR DURING CONSTRUCTION.
  - D. NO PORTION OF THE PLATE SHOULD PROJECT MORE THAN  $\frac{3}{8}$ " FROM THE TOP OF THE RIDING SURFACE
  - E. THE DEFLECTION OF THE PLATE SHOULD NOT EXCEED "L/400", WHERE "L" IS THE SPAN LENGTH BETWEEN SUPPORTS.
  - F. A MINIMUM OF  $\frac{1}{2}$ " SHALL BE MAINTAINED BETWEEN THE TOP OF DECK/HEADERS AND THE BOTTOM OF THE STEEL PLATE AT ALL TIMES.
  - G. IN THE EVENT THAT THE TOP OF THE PLATE WILL PROJECT ABOVE THE RIDING SURFACE, TAPERED TEMPORARY PAVEMENT WILL BE REQUIRED TO ALLOW FOR A SMOOTH TRANSITION FOR TRAFFIC AND AVOID A "BUMP" IN THE ROADWAY.
  - H. A MINIMUM OF 2'-0" (PERPENDICULAR TO TRAFFIC) SHALL BE MAINTAINED FROM THE EDGE OF THE TEMPORARY PLATE TO THE NEAREST EDGE OF LANE CARRYING TRAFFIC.
  - I. TRANSITIONS/WEDGE PAVEMENT IN APPROACHES SHALL BE AS NOTED IN SECTION 4.06. SEE SPECIAL PROVISIONS. TRANSITIONS/WEDGE PAVEMENT SHALL BE PROVIDED IN BOTH DIRECTIONS (PARALLEL AND PERPENDICULAR TO TRAFFIC).
  - J. HEIGHT FROM THE TOP THE TEMPORARY STEEL PLATE TO THE ORIGINAL RIDING SURFACE SHALL NOT EXCEED 3".
  - K. THE MINIMUM PLATE WIDTH TRANSVERSE TO TRAFFIC SHALL BE 4'-0".
  - L. THE PLATES SHALL BE DESIGNED FOR A 32 KIP WHEEL LOAD.
5. SEE SPECIAL PROVISION "TEMPORARY DECK PLATE" FOR ADDITIONAL REQUIREMENTS.
6. THE DETAIL FOR THE TEMPORARY DECK PLATE SHOULD BE ABLE TO ACCOMMODATE CROSS-SLOPES ON THE BRIDGE AND BE ABLE TO ACCOMMODATE ANCHOR INSTALLATION TOLERANCES IN BOTH LONGITUDINAL AND TRANSVERSE DIRECTIONS.
7. TEMPORARY DECK PLATES WILL NOT BE APPROVED FOR USE IN JOINTS WHERE DECK RECONSTRUCTION IS NOT REQUIRED.

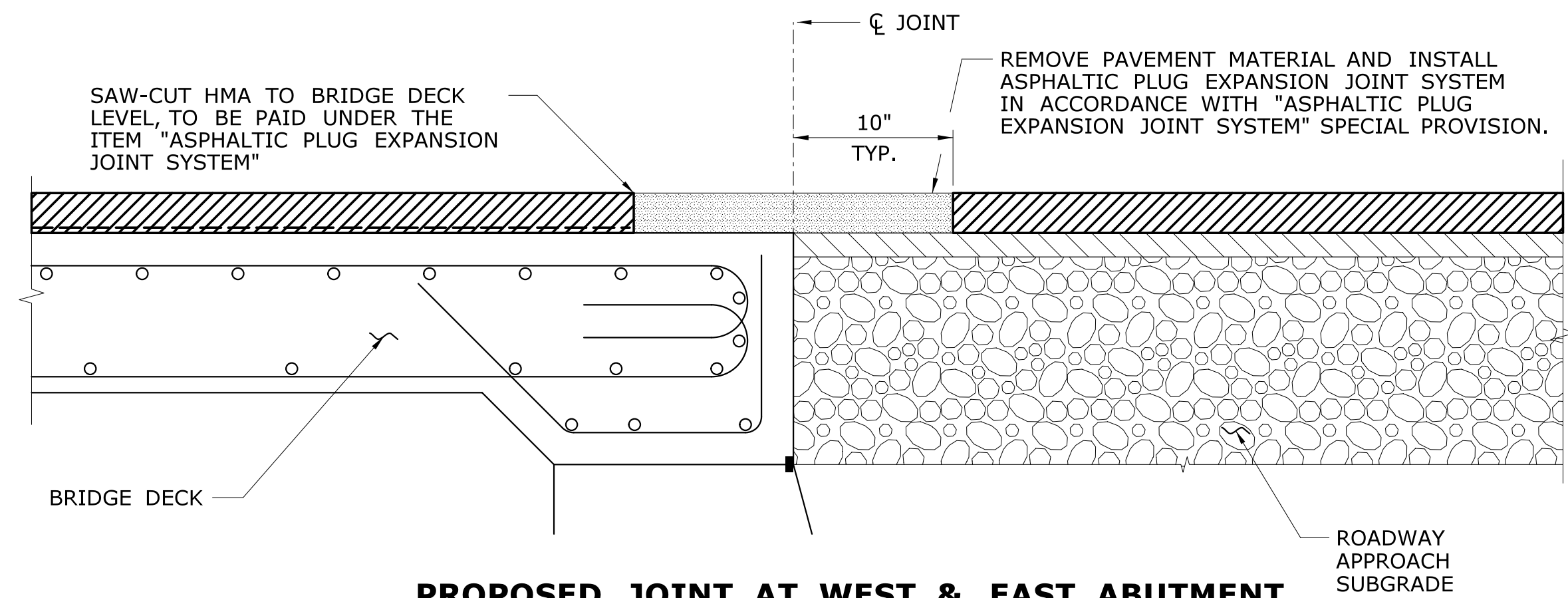
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				CHECKED BY: <b>JG</b>							DRAWING NO. <b>S-33</b>
				SCALE AS NOTED							SHEET NO. <b>05.03.33</b>
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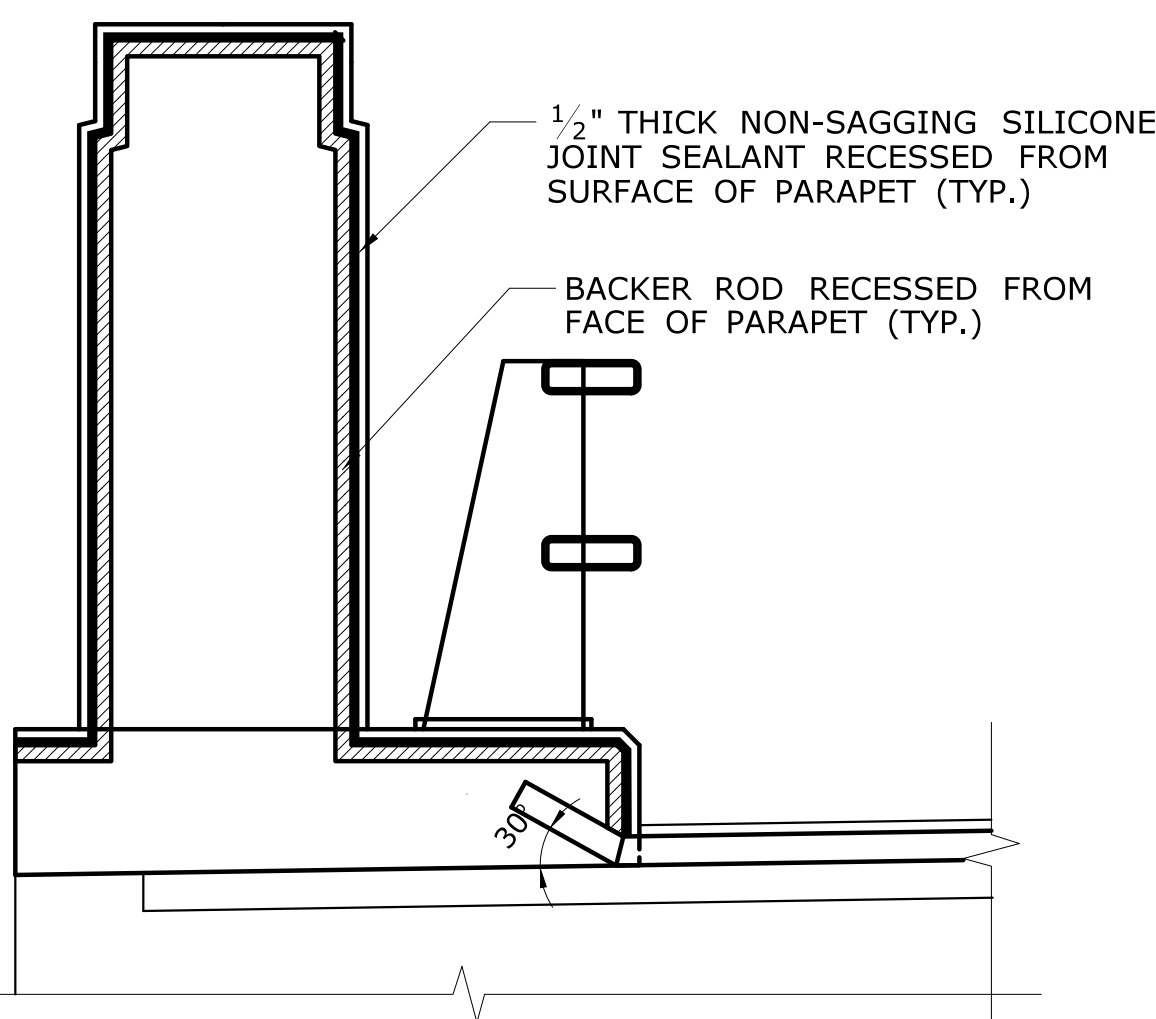
**PROPOSED JOINT AT PIER 3 & PIER 4**

SCALE: 1 1/2" = 1'-0"



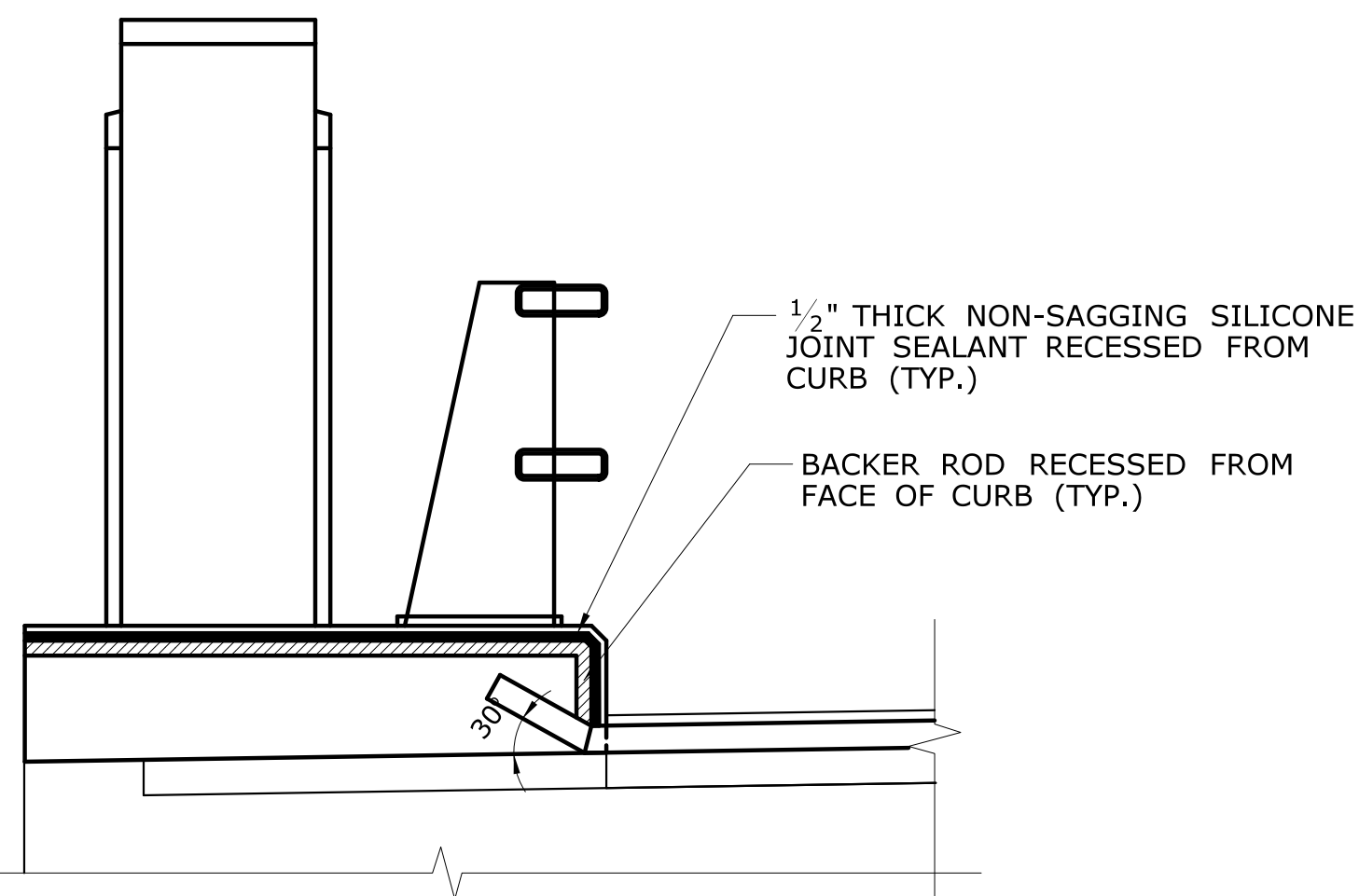
**PROPOSED JOINT AT WEST & EAST ABUTMENT**

SCALE: 1 1/2" = 1'-0"



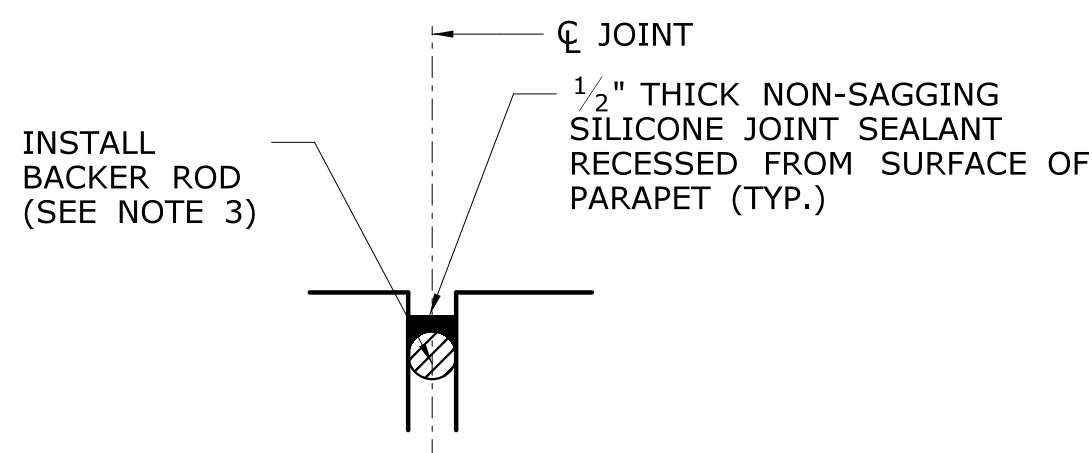
**PROPOSED WORK AT CURB  
PIER 3 & PIER 4**

SCALE: 1" = 1'-0"



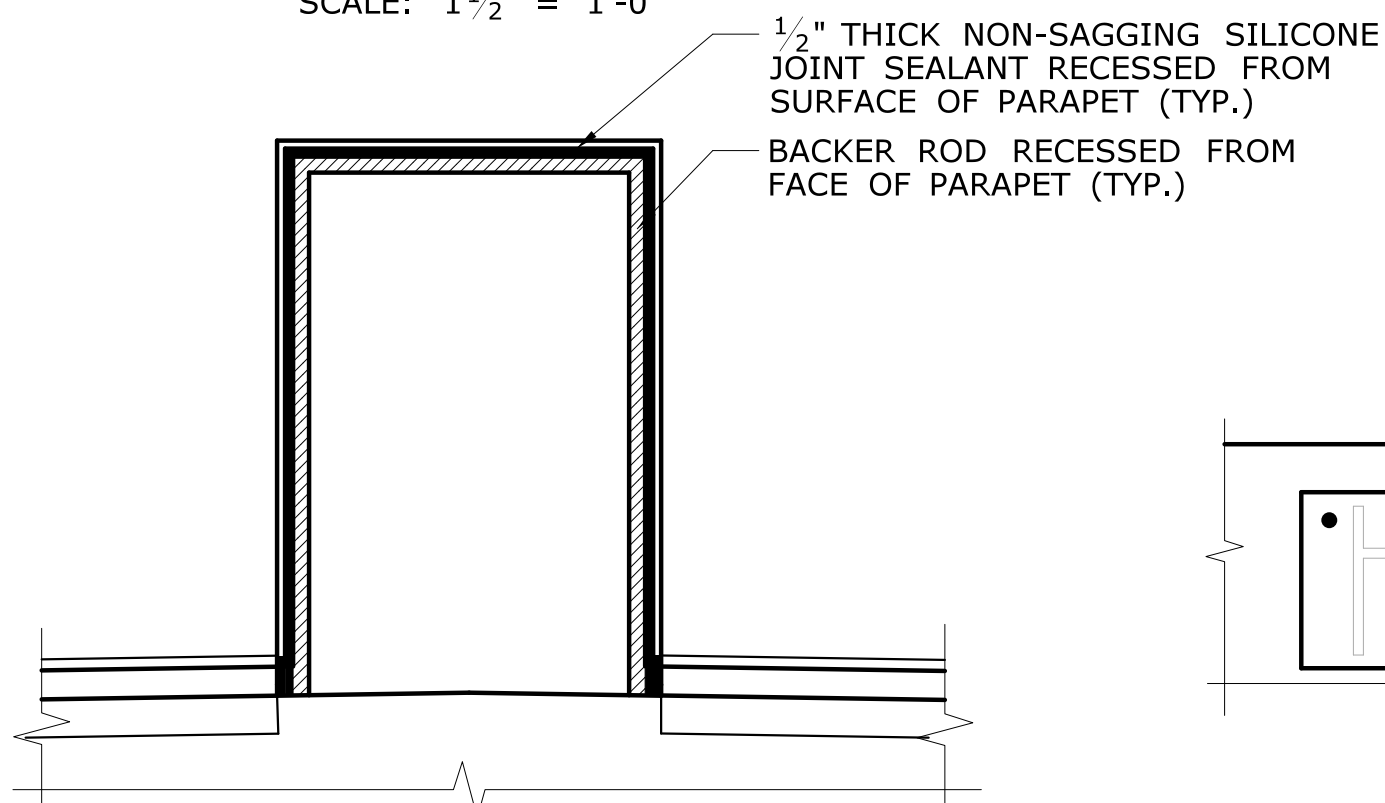
**PROPOSED WORK AT CURB  
FLOOR BEAM 8 - 8A & FLOOR BEAM 5 - 5A**

SCALE: 1" = 1'-0"



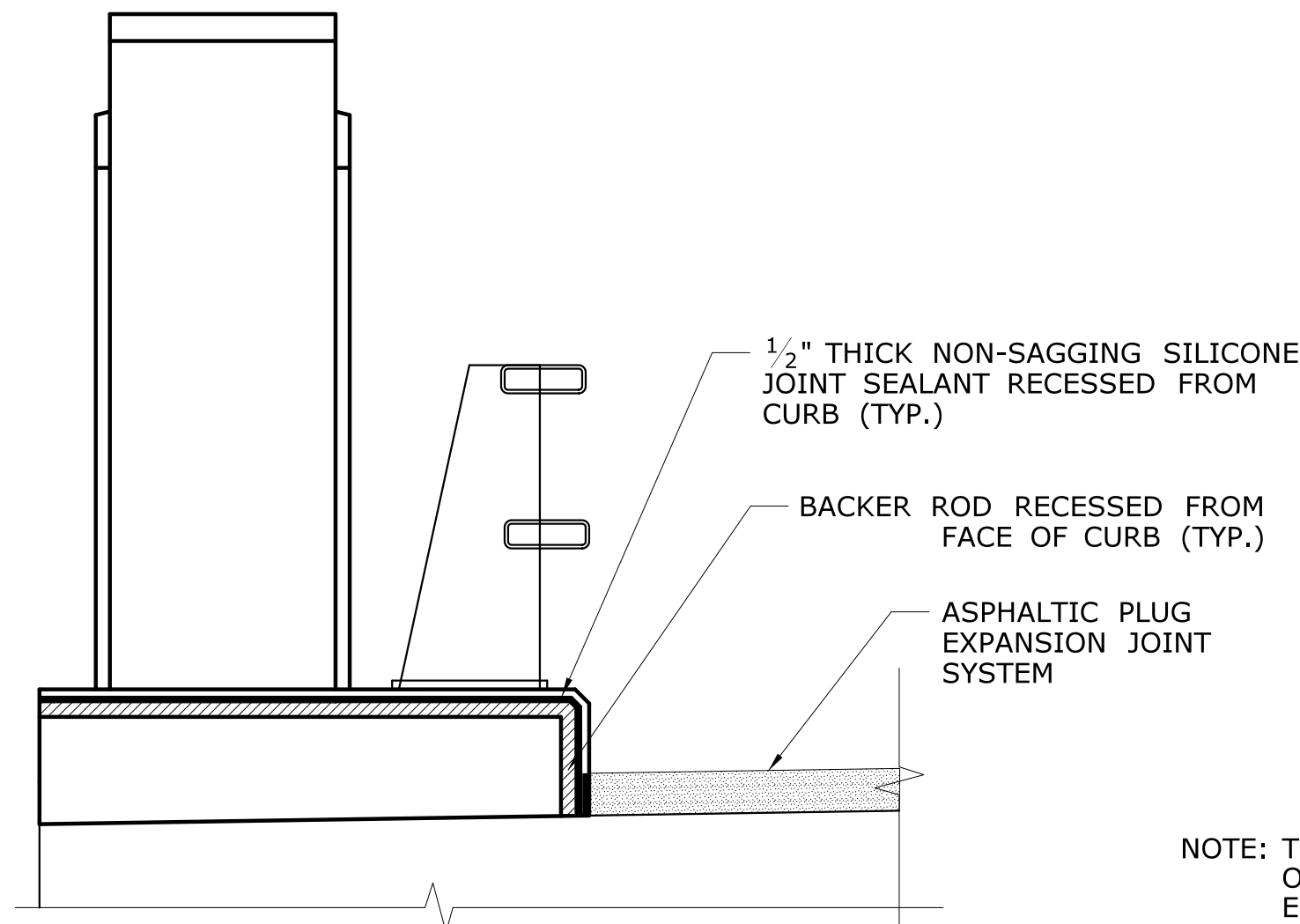
**SECTION THROUGH BACKER ROD**

SCALE: 1 1/2" = 1'-0"



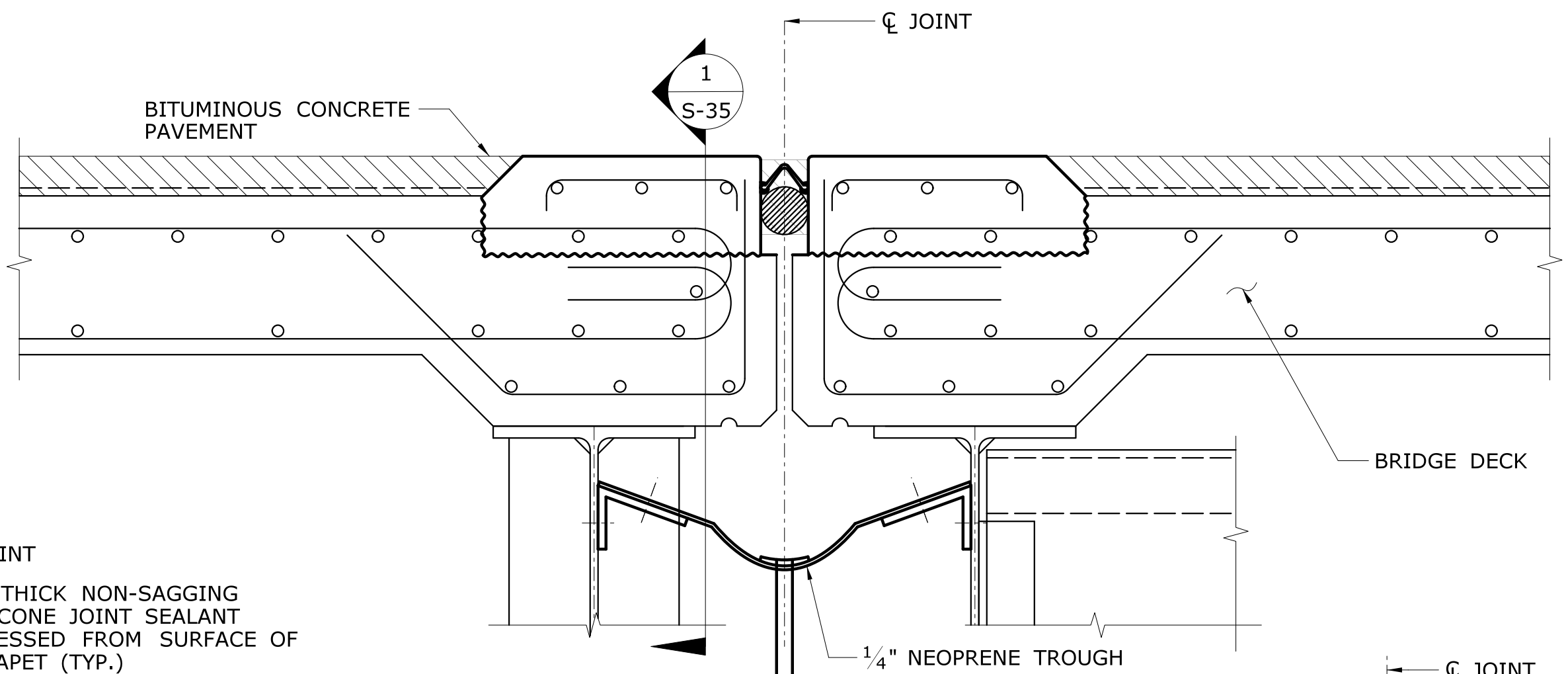
**PROPOSED WORK AT MEDIAN**

SCALE: 1" = 1'-0"



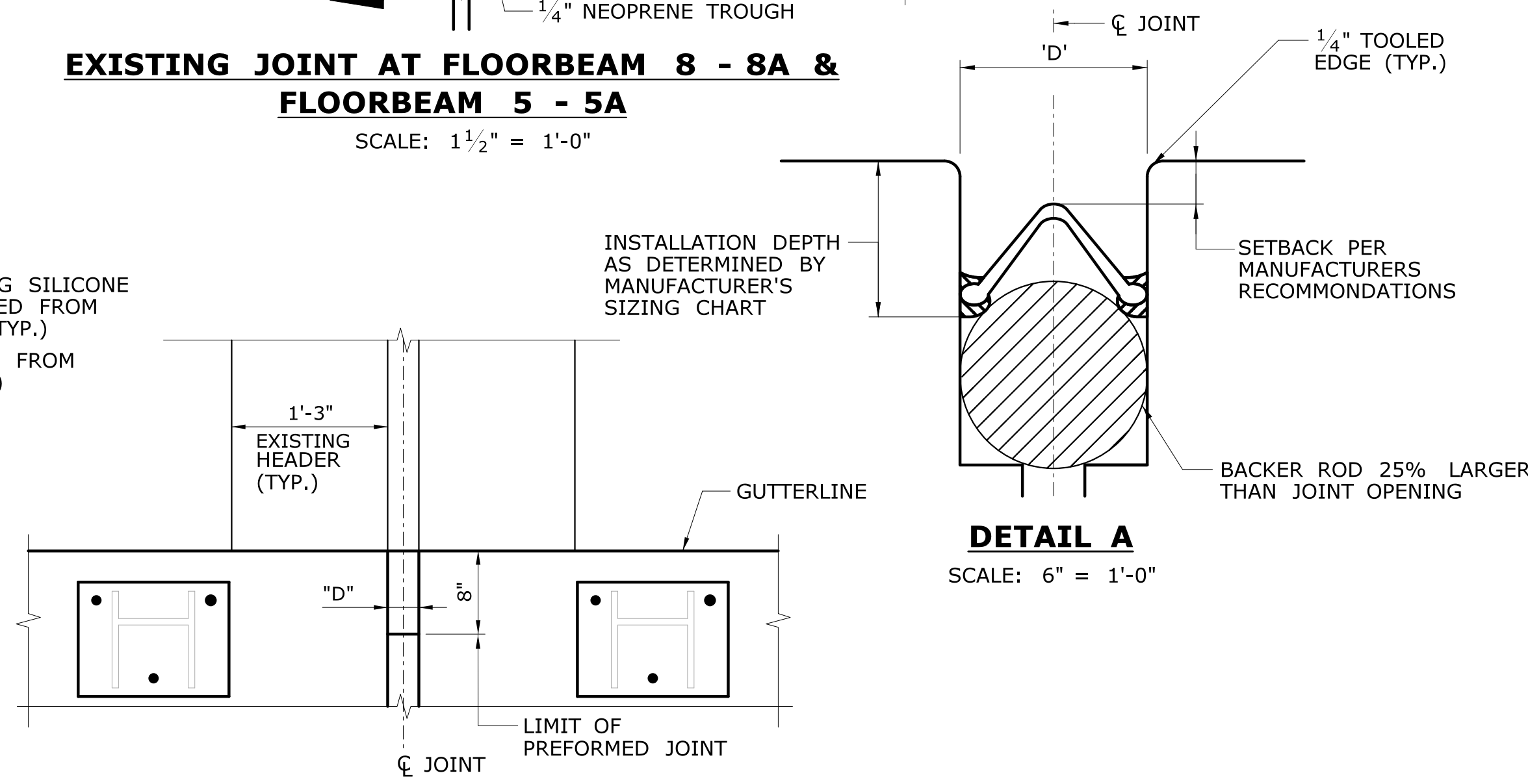
**PROPOSED WORK AT CURB**

SCALE: 1" = 1'-0"



**EXISTING JOINT AT FLOORBEAM 8 - 8A &  
FLOORBEAM 5 - 5A**

SCALE: 1 1/2" = 1'-0"



**PLAN**

SCALE: 1" = 1'-0"

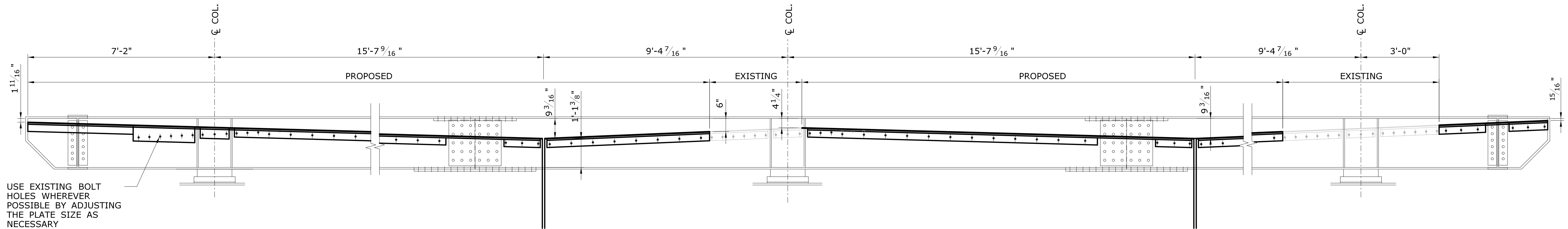
JOINT OPENING & ADJUSTMENT TABLE				
	PIER 3 & 4		FB 5 & FB 8	
EXP. JOINT SYSTEM INSTALL TEMPERATURE (DEG. F)	ADJUSTMENT TO JOINT OPENING (IN.)	ADJUSTED JOINT OPENING (IN.) *	ADJUSTMENT TO JOINT OPENING (IN.)	ADJUSTED JOINT OPENING (IN.) *
30	+0.17	*	+0.02	*
40	+0.09	*	+0.01	*
50	+0.00	*	+0.00	*
60	-0.09	*	-0.01	*
70	-0.17	*	-0.02	*
80	-0.26	*	-0.03	*
90	-0.35	*	-0.04	*

\* - THE CONTRACTOR SHALL MEASURE THE EXISTING JOINT OPENING, COMPLETE THIS COLUMN AND SUBMIT TO THE ENGINEER AS PART OF THE SHOP DRAWING REVIEW.

NOTE: THE DIMENSION 'D' IS THE MANUFACTURER'S MINIMUM REQUIRED JOINT OPENING @ 50° F BASED ON THE ACTUAL JOINT BEING USED TO ACCOMMODATE MAXIMUM JOINT MOVEMENT OF 1.25". THE EXISTING OPENING AT THE DECK END MAY BE LESS THAN "D" BASED ON AS-BUILT CONDITIONS. TO PREVENT THE JOINT FROM CRUSHING, THE MINIMUM DIMENSION AT THE DECK END SHALL BE 'D' MINUS 1/4". THIS MAY REQUIRE RECONSTRUCTING THE DECK ENDS EITHER INWARD OR OUTWARD OF THE EXISTING LIMITS OF THE DECK ENDS. THE DIMENSION "D" SHALL BE ADJUSTED ACCORDING TO THE TABLE ABOVE. THE CONTRACTOR SHOULD NOTE THAT THE EXISTING DECK ENDS MAY NOT BE PARALLEL.

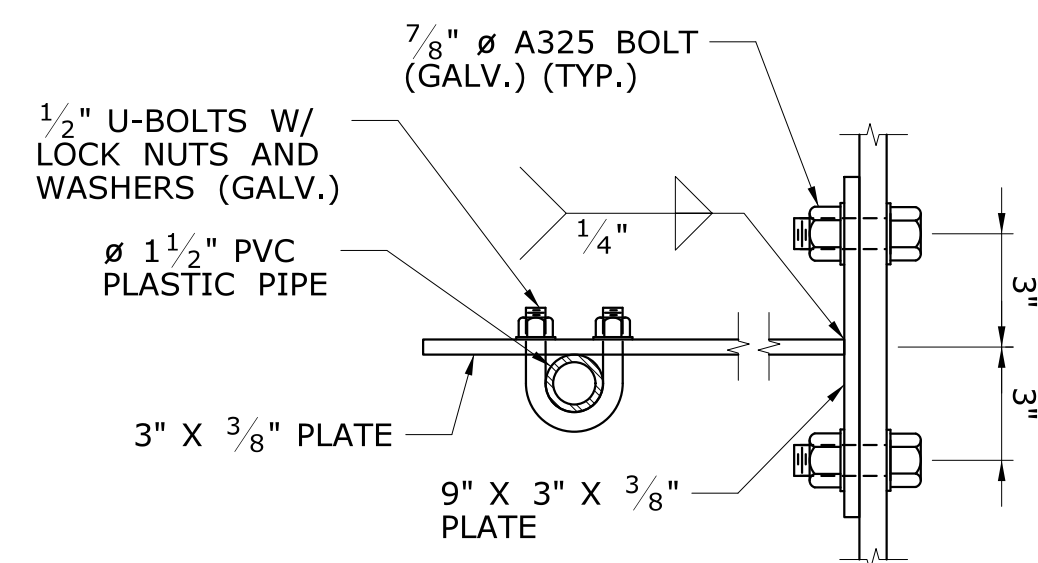
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								DRAWING TITLE: <b>DECK JOINT DETAILS</b>		DRAWING NO. <b>S-34</b>			
										SHEET NO. <b>05.03.34</b>			



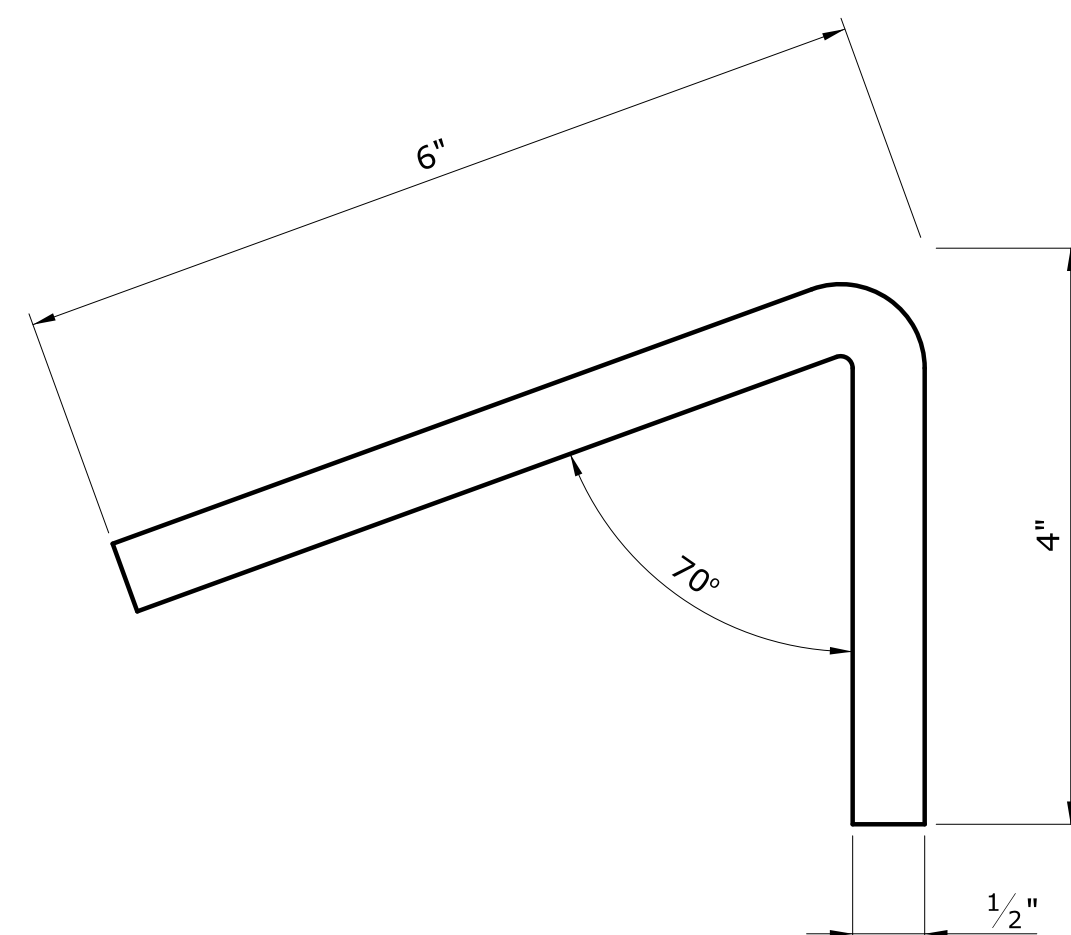


ELEVATION FLOORBEAM 5A & 8A SHOWN  
FLOORBEAM 5 & 8 SIMILAR

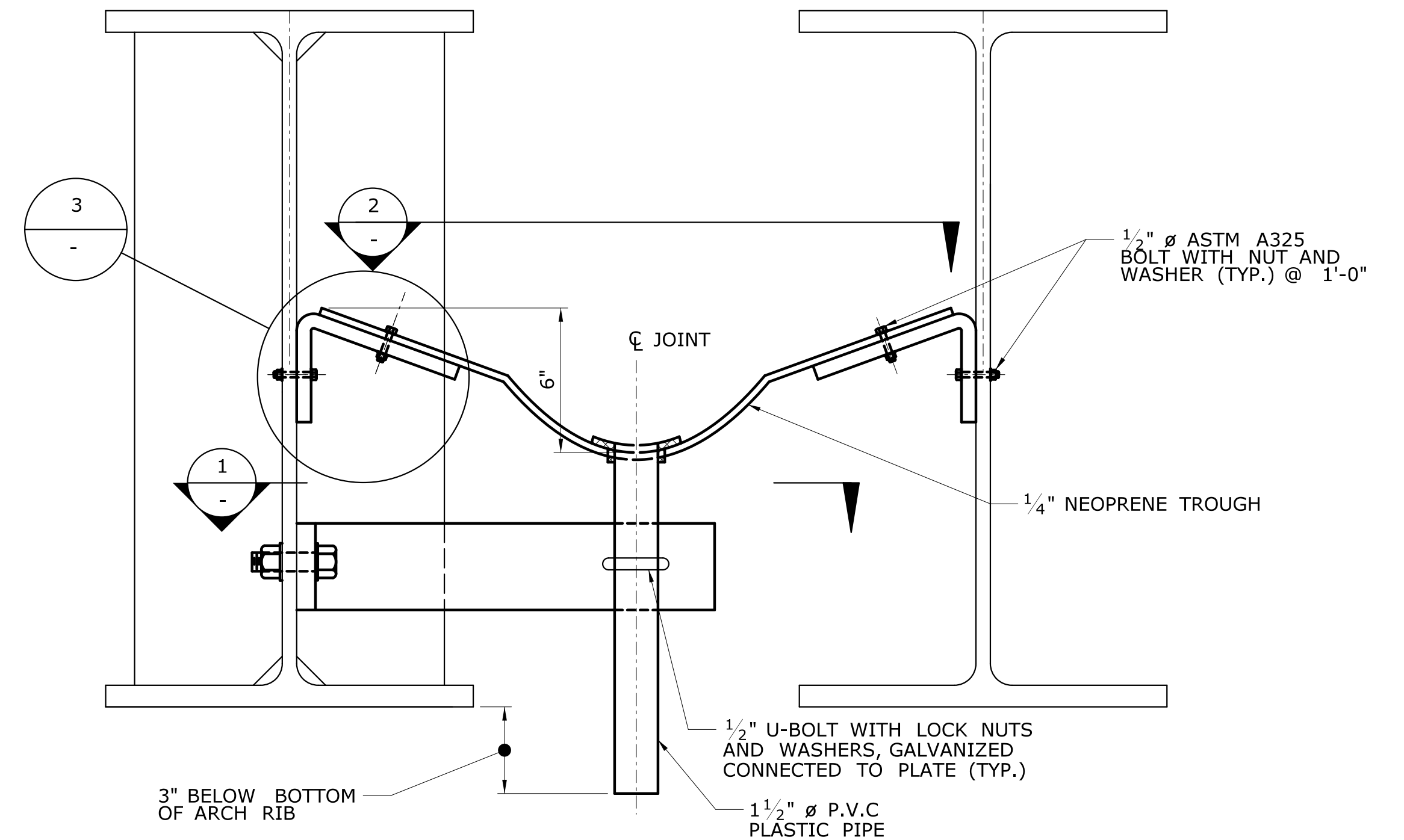
NOT TO SCALE



1 SECTION  
- NOT TO SCALE



3 SECTION  
- NOT TO SCALE

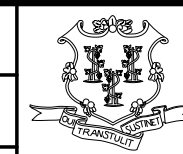



TROUGH WEEPIPE DETAILS

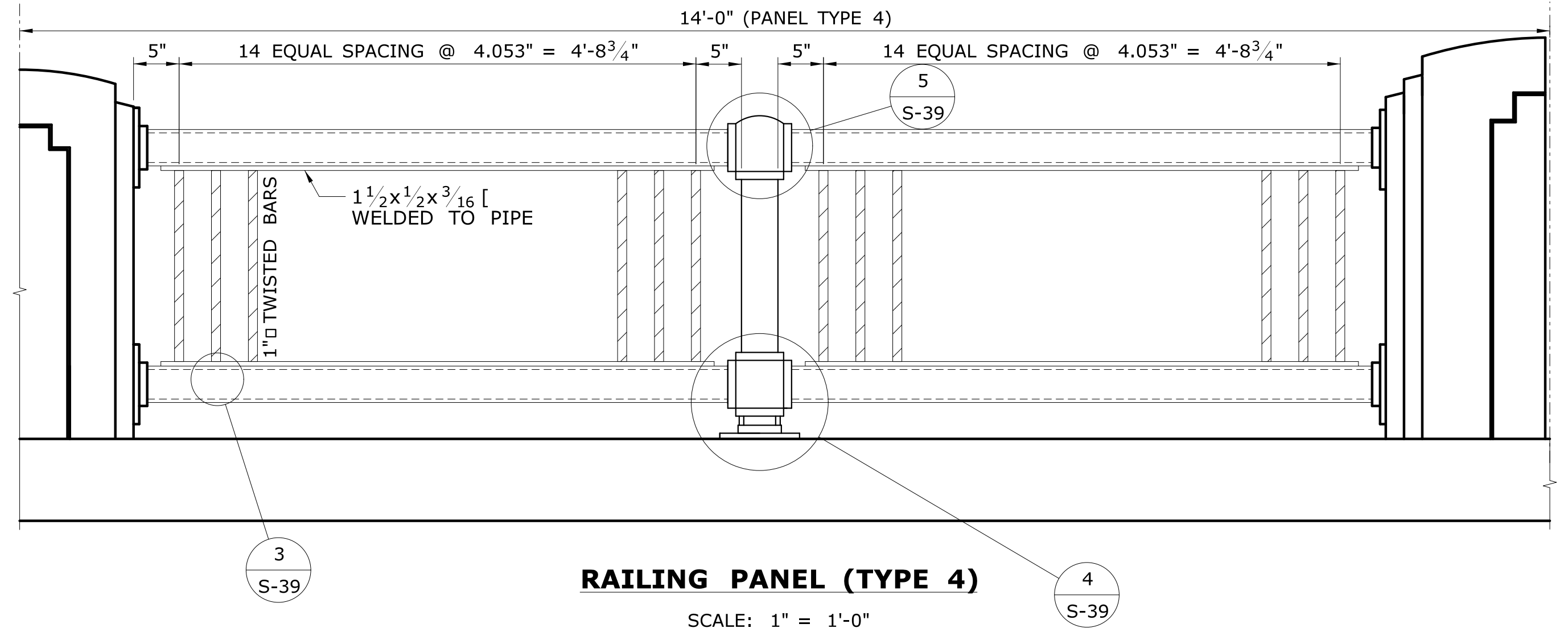
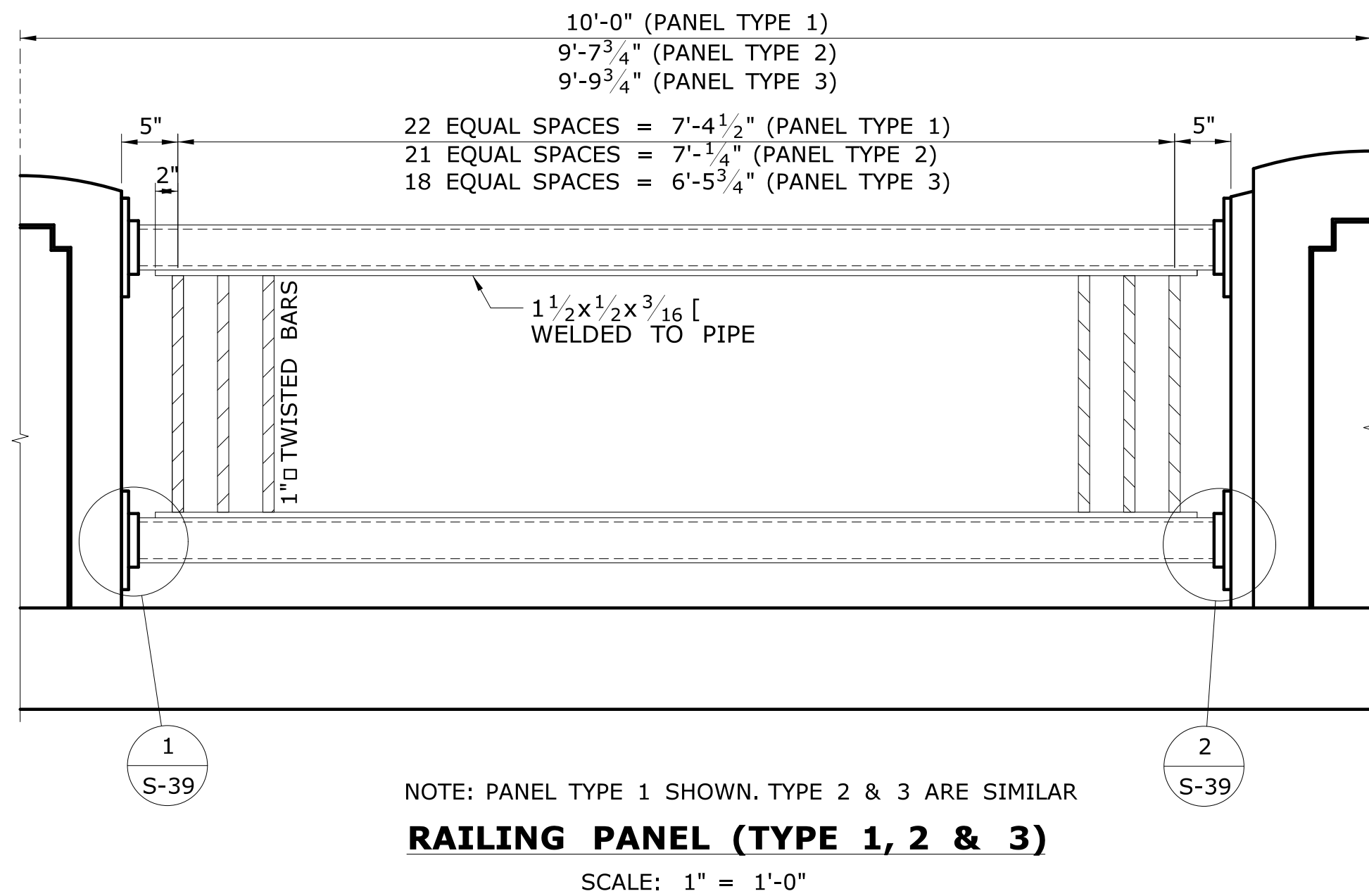
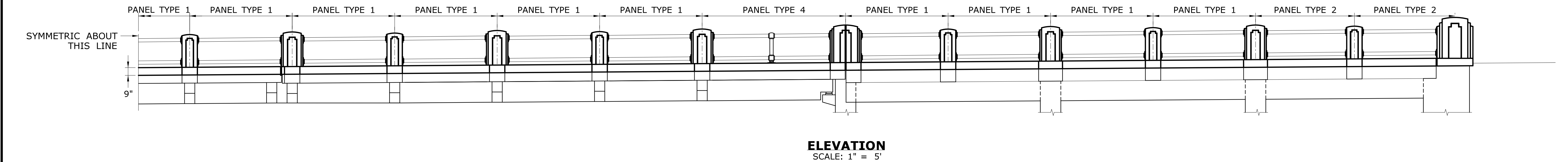
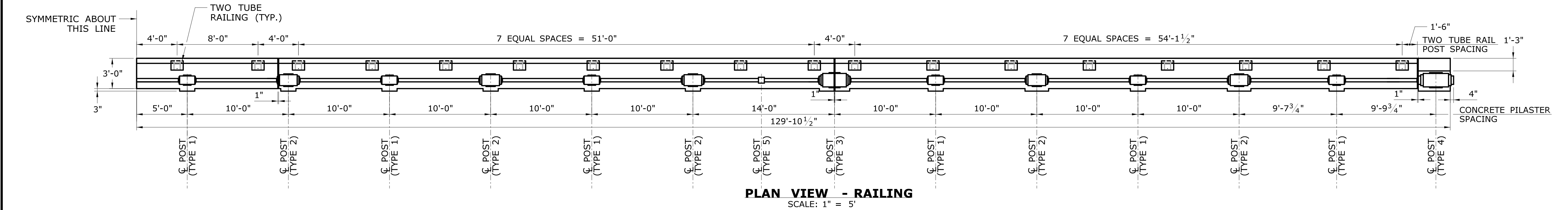
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NOTES:

1. INSTALLATION OF BENT PLATES, TROUGH, WEEP PIPES, ANCHORAGE AND ALL NECESSARY ITEMS, TO BE PAID UNDER ITEM "REHABILITATION OF EXISTING STRUCTURAL STEEL".
2. WEEPIPE SHALL BE CONNECTED TO THE TROUGH USING RUBBER AND SHALL BE ATTACHED USING GLUE.

				DESIGNER/DRAFTER: <b>DK</b>		 <b>STATE OF CONNECTICUT</b> <b>DEPARTMENT OF TRANSPORTATION</b>		SIGNATURE/ BLOCK:	PROJECT TITLE: <b>REHABILITATION OF BRIDGE 00728</b> <b>MERRITT PARKWAY</b> <b>OVER SAUGATUCK RIVER</b>	TOWN: <b>WESTPORT</b>	PROJECT NO. <b>158-207</b>		
				CHECKED BY: <b>JG</b>								DRAWING TITLE: <b>TROUGH DETAILS</b>	SHEET NO. <b>S-35</b>
				SCALE AS NOTED									
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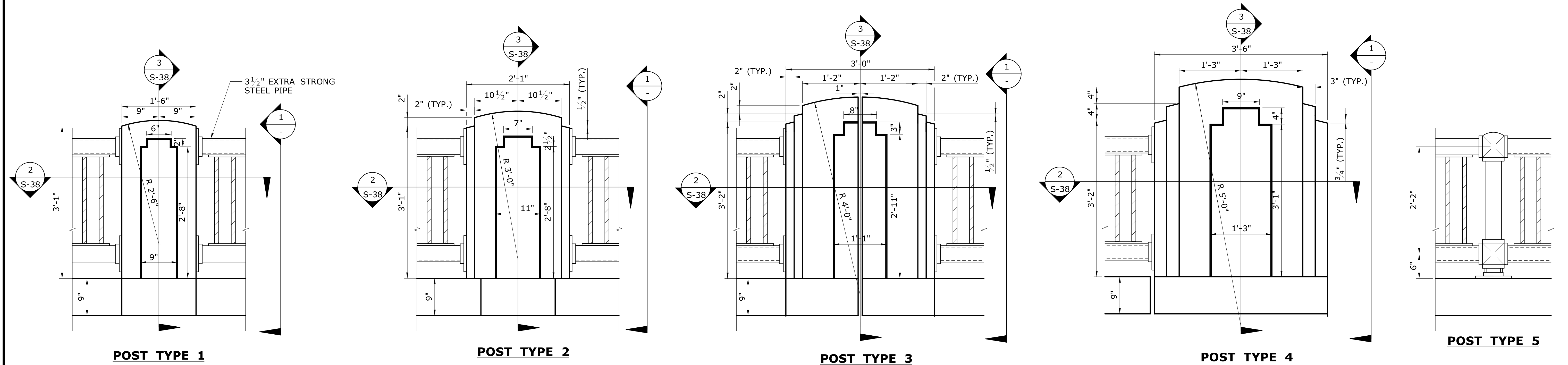


**NOTES:**

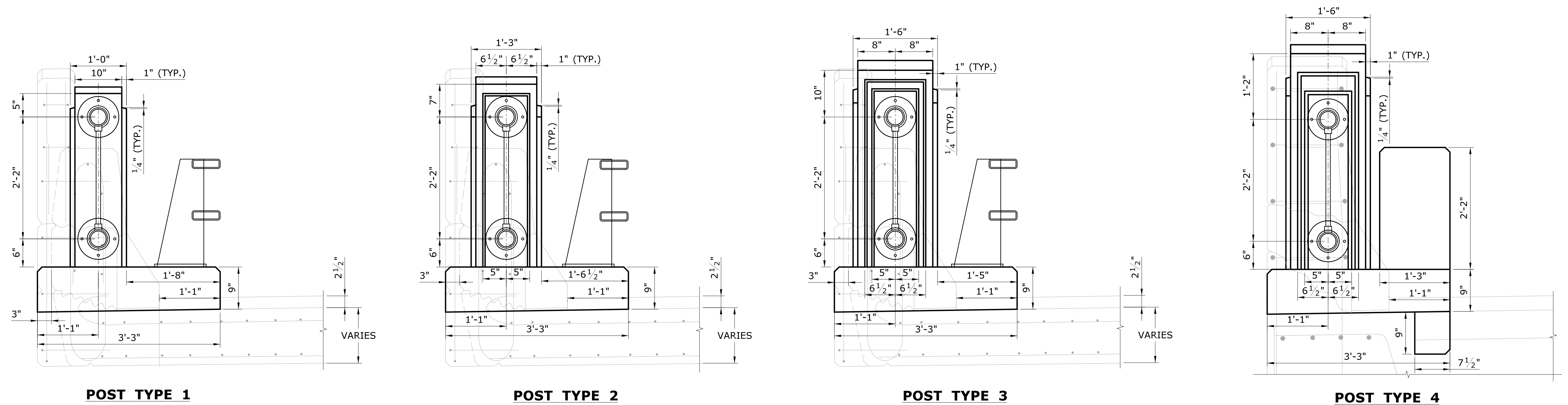
- ALL RAIL ELEMENTS SHALL BE PAINTED USING HRCSA CORROSION PROTECTION SYSTEM IN ACCORDANCE WITH ITEM "HRCSA CORROSION PROTECTION SYSTEM" BUT SHALL BE PAID UNDER ITEM "METAL BRIDGE RAIL (ORNAMENTAL GRILLE)".
- CONCRETE FOR ORNAMENTAL POSTS SHALL BE IN ACCORDANCE WITH CLASS "C" CONCRETE REPLICATED SPECIAL PROVISION AND SHALL BE PAID UNDER ITEM "CLASS "C" CONCRETE REPLICATED".
- STEEL RAILING ELEMENTS SHALL BE PAID UNDER ITEM "METAL BRIDGE RAIL (ORNAMENTAL GRILLE)" AND IN ACCORDANCE WITH SPECIAL PROVISION.

				DESIGNER/DRAFTER: <b>NRA</b> CHECKED BY: <b>JG</b> SCALE AS NOTED		THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.		Plotted Date: 7/6/2016	
REV.	DATE	REVISION DESCRIPTION	SHEET NO.	STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION		SIGNATURE/ BLOCK:		PROJECT TITLE: <b>REHABILITATION OF BRIDGE 00728 MERRITT PARKWAY OVER SAUGATUCK RIVER</b>	
				TOWN: <b>WESTPORT</b>		DRAWING TITLE: <b>BRIDGE RAILING DETAILS (1 OF 4)</b>		PROJECT NO. <b>158-207</b>	
								SHEET NO. <b>05.03.36</b>	







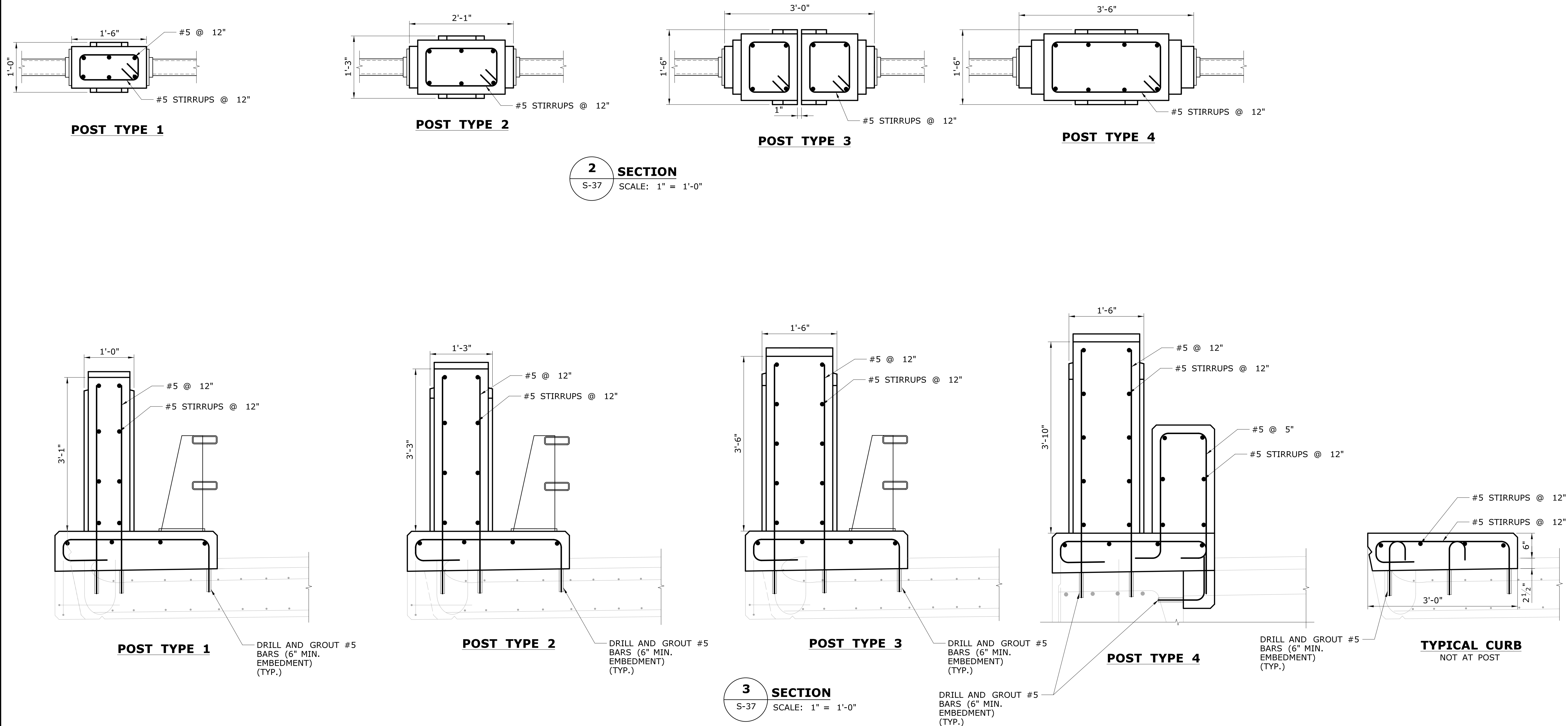
**POST ELEVATION**  
SCALE: 1" = 1'-0"





**1** **SECTION**  
- SCALE: 1" = 1'-0"

				THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.		DESIGNER/DRAFTER: <b>NRA</b> CHECKED BY: <b>JG</b>		 <b>STATE OF CONNECTICUT</b> <b>DEPARTMENT OF TRANSPORTATION</b>		SIGNATURE/ BLOCK: 		G#2 ASSOCIATES, INC. 115 GLASTONBURY BLVD. GLASTONBURY, CT 06033		PROJECT TITLE: <b>REHABILITATION OF BRIDGE 00728</b> <b>MERRITT PARKWAY</b> <b>OVER SAUGATUCK RIVER</b>		TOWN: <b>WESTPORT</b>		PROJECT NO. <b>158-207</b> DRAWING NO. <b>S-37</b> SHEET NO. <b>05.03.37</b>		
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REV.	DATE	REVISION DESCRIPTION		SHEET NO.	Plotted Date: 7/6/2016															

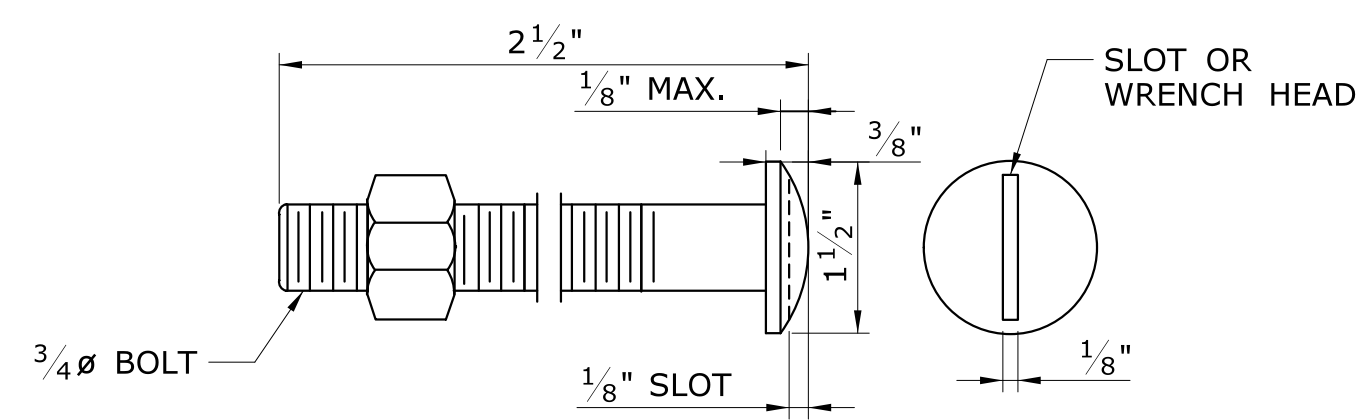




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				CHECKED BY: <b>JG</b>								DRAWING TITLE: <b>BRIDGE RAILING</b> <b>DETAILS (3 OF 4)</b>	SHEET NO. <b>05.03.38</b>	
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REV.	DATE	REVISION DESCRIPTION	SHEET NO.	Plotted Date: 7/6/2016		Filename: ...\\SB_MSH_158-207_RAILING.DTL 3.dgn								

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.





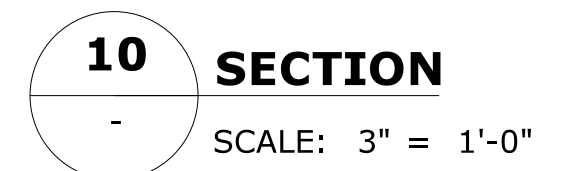
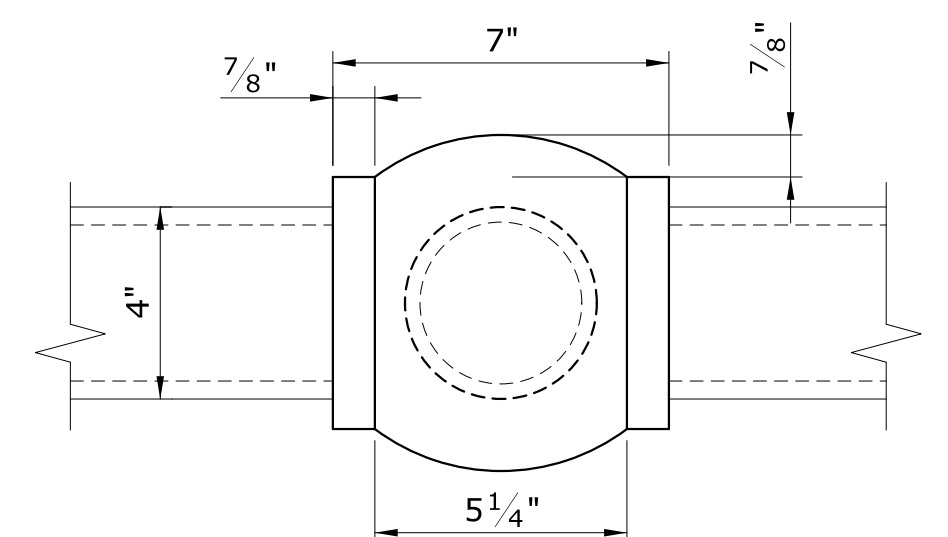
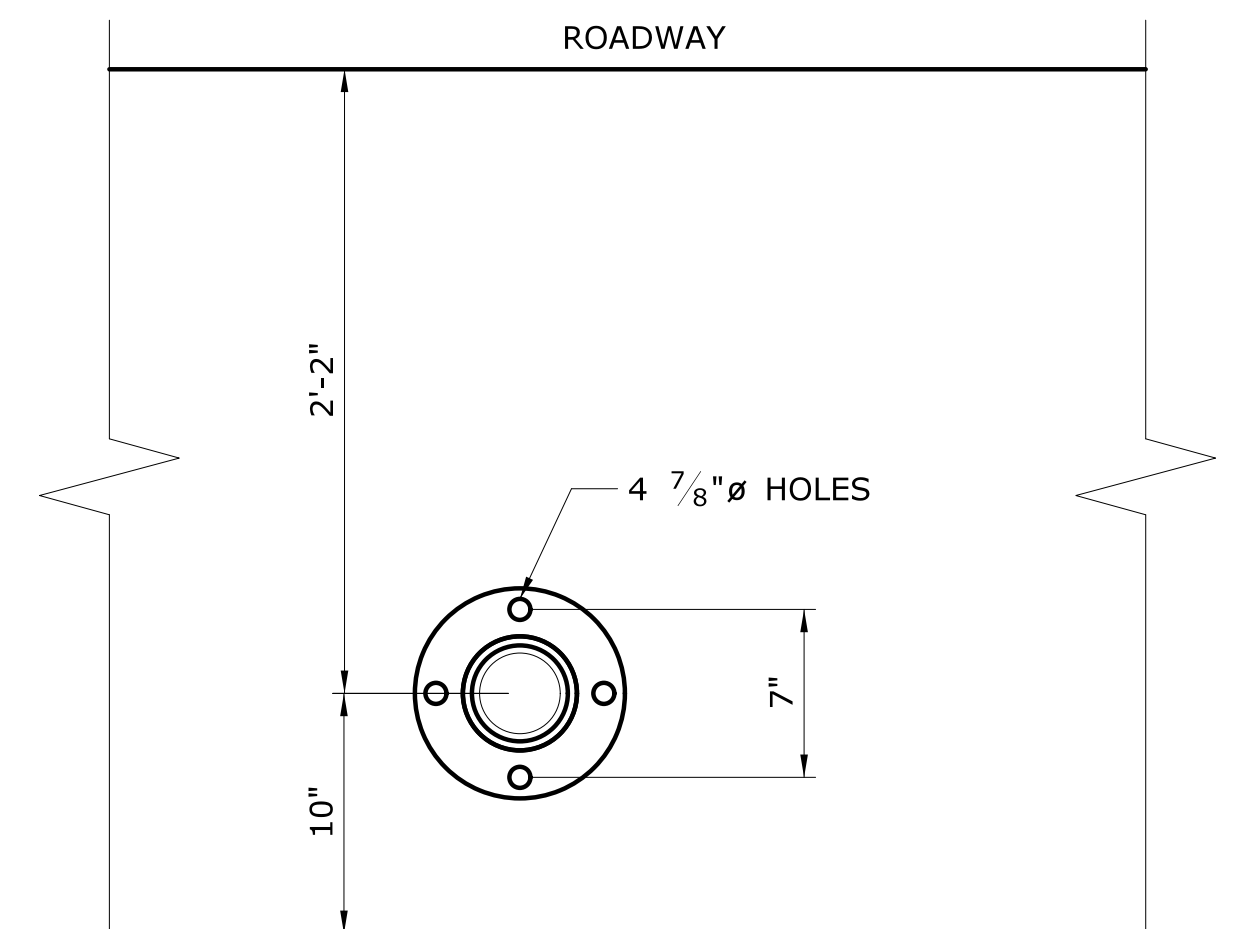
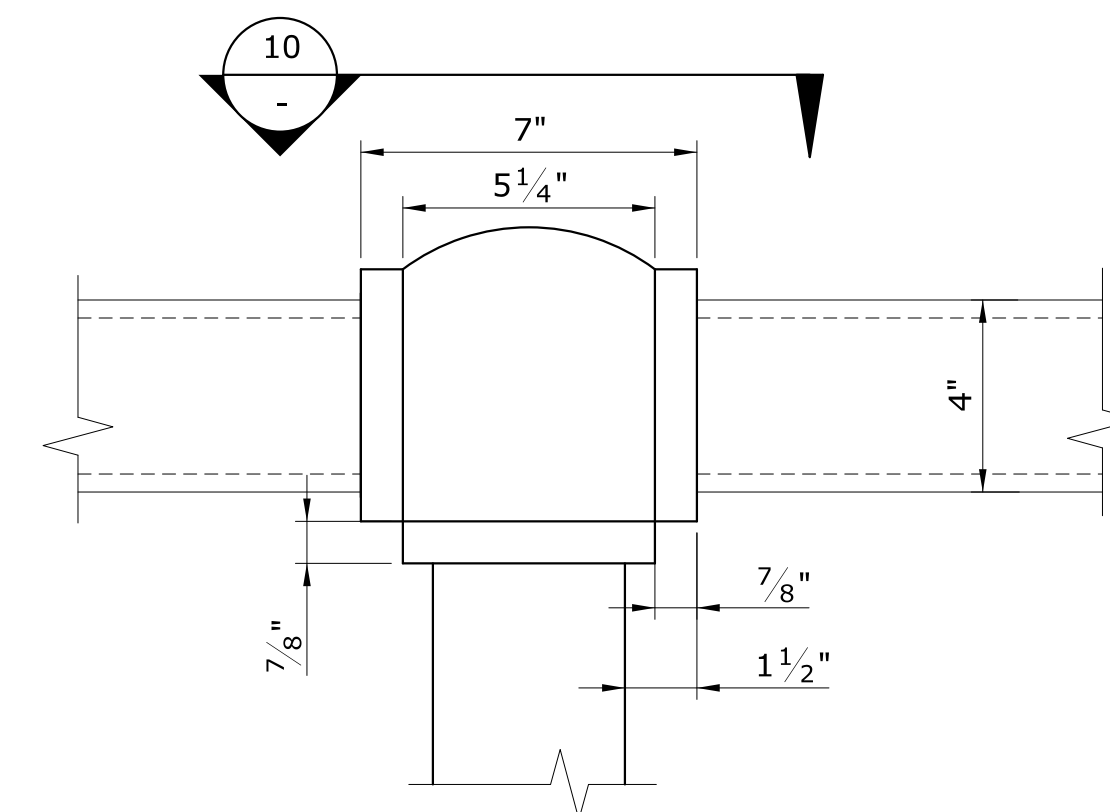
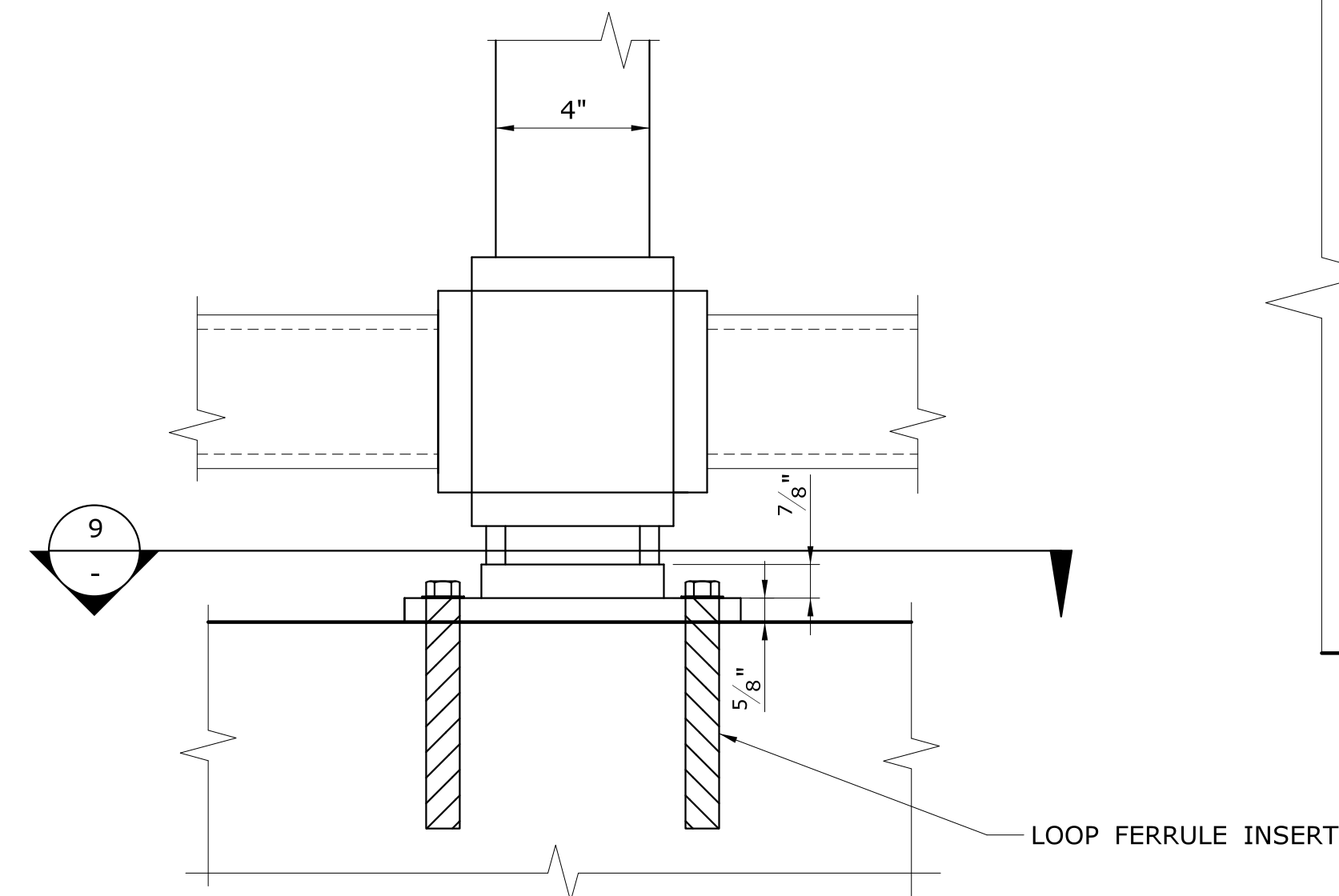
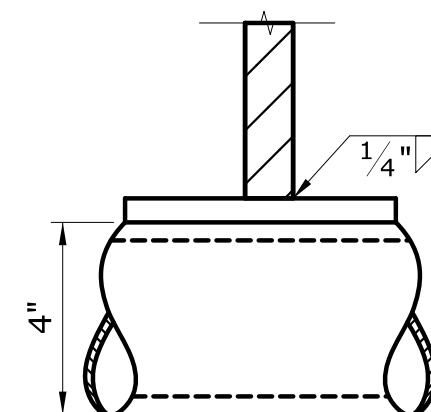
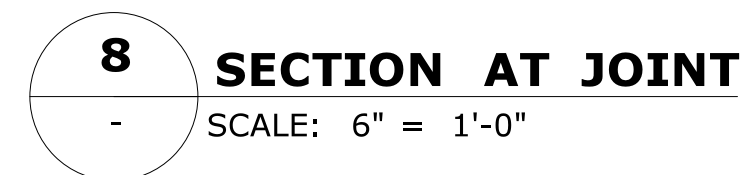
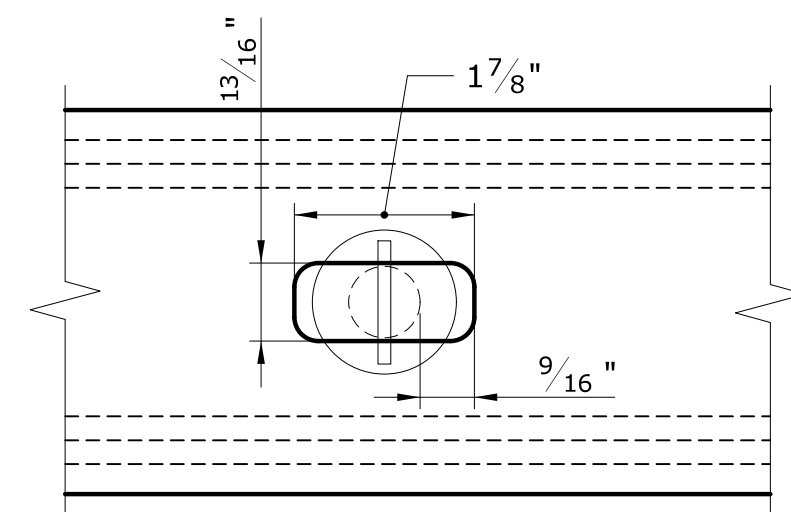
4  $\frac{7}{8}$ "  $\varnothing$  HOLES FOR  $\frac{5}{8}$ " BOLTS


7"

$8\frac{3}{4}$ "

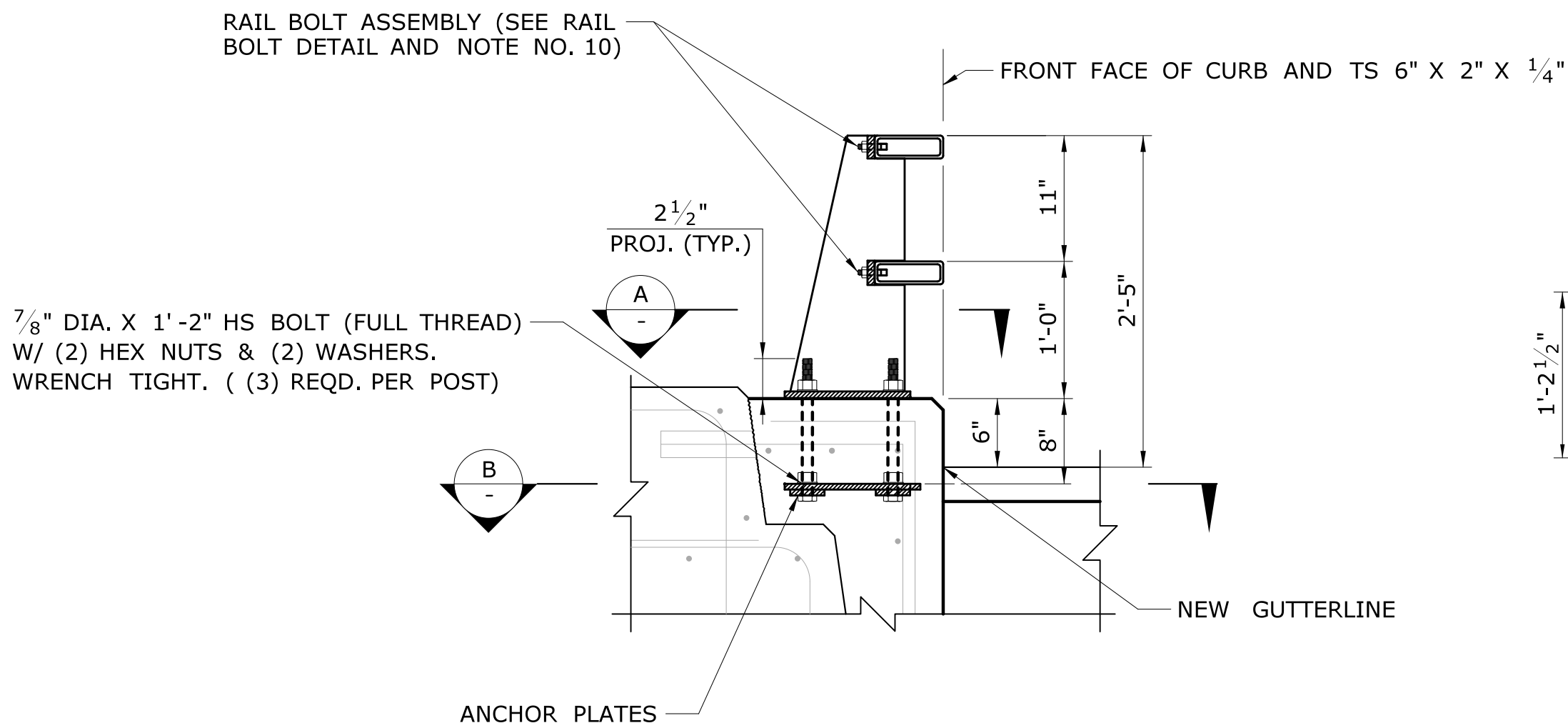
$4\frac{3}{4}$ "

$2\frac{7}{8}$ "



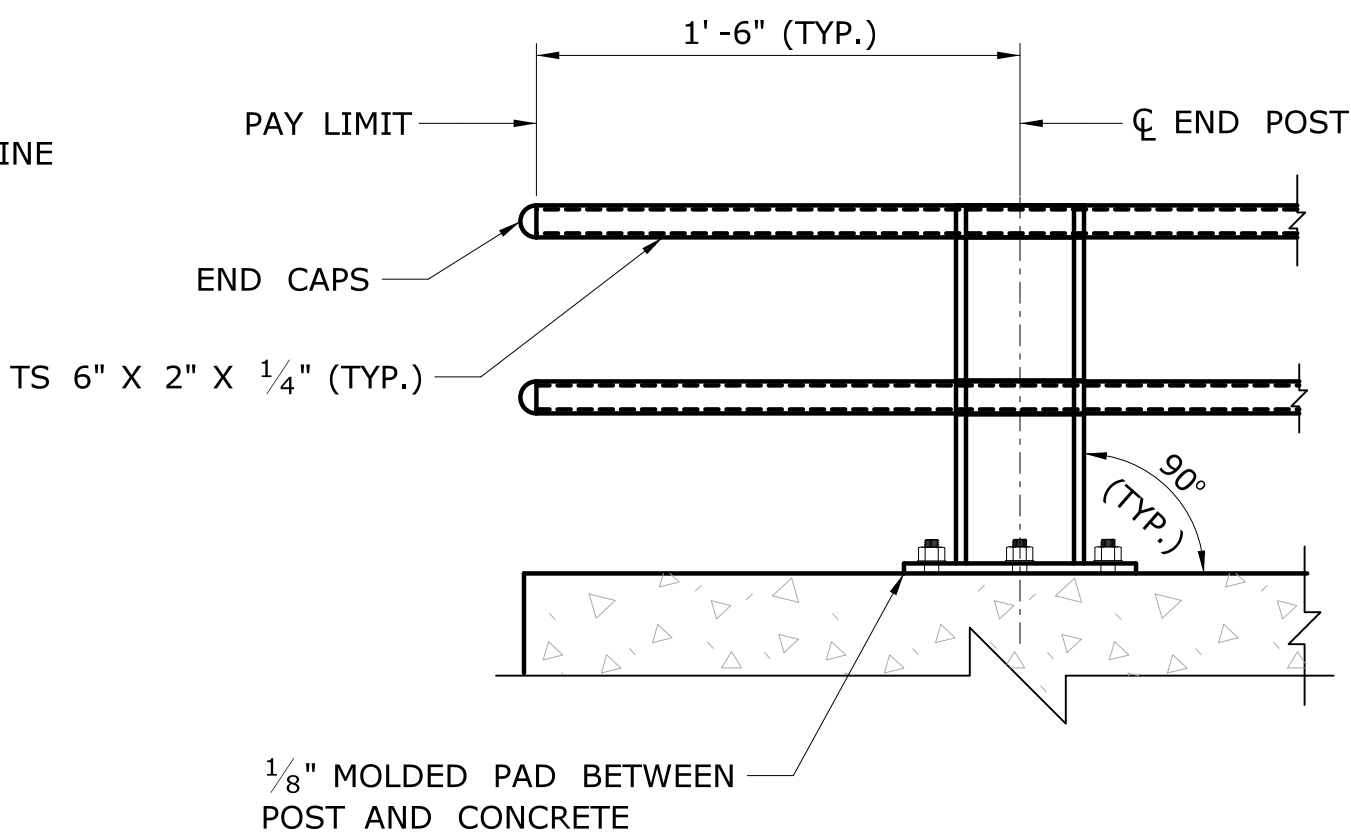
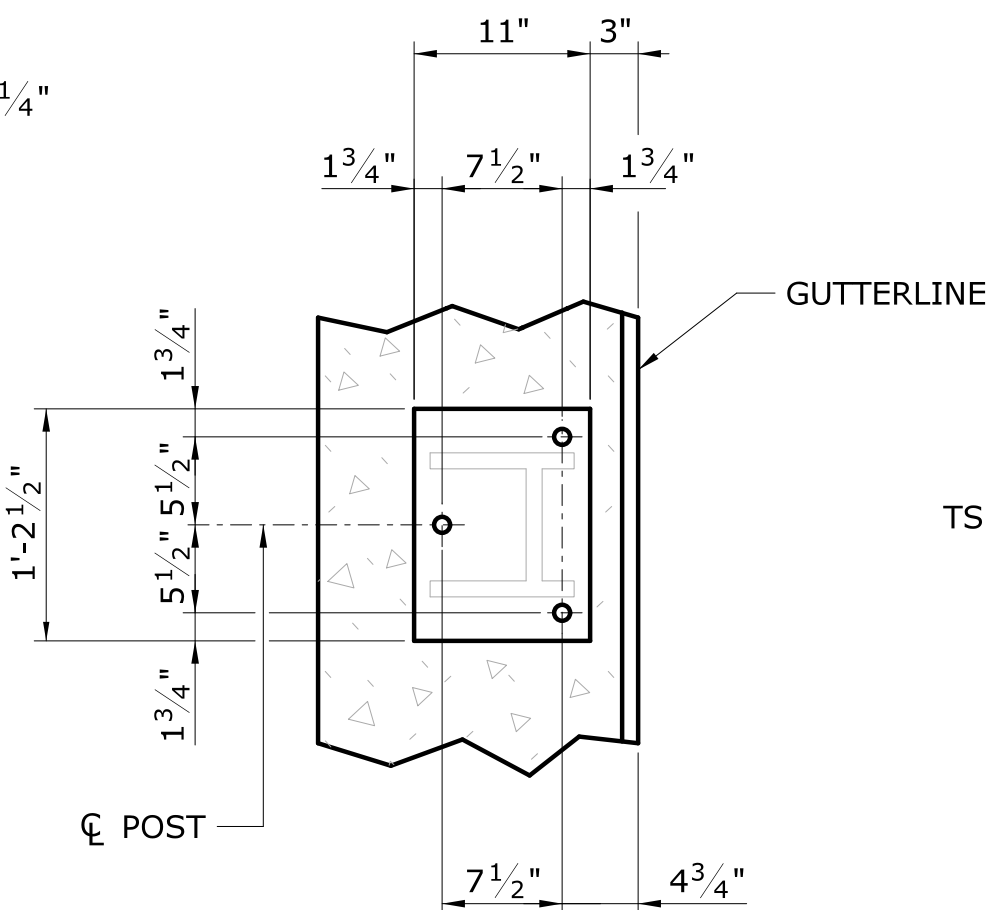
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				CHECKED BY: <b>JG</b>					DRAWING NO. <b>S-39</b>	SHEET NO. <b>05.03.39</b>	
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REV.	DATE	REVISION DESCRIPTION				SHEET NO.	Plotted Date: 7/6/2016				





**TYPICAL ASSEMBLY DETAIL**  
(SHOWN NEAR  $\varnothing$  POST) (TYP. CURB BUILDOUT SHOWN)  
SCALE: 1" = 1'

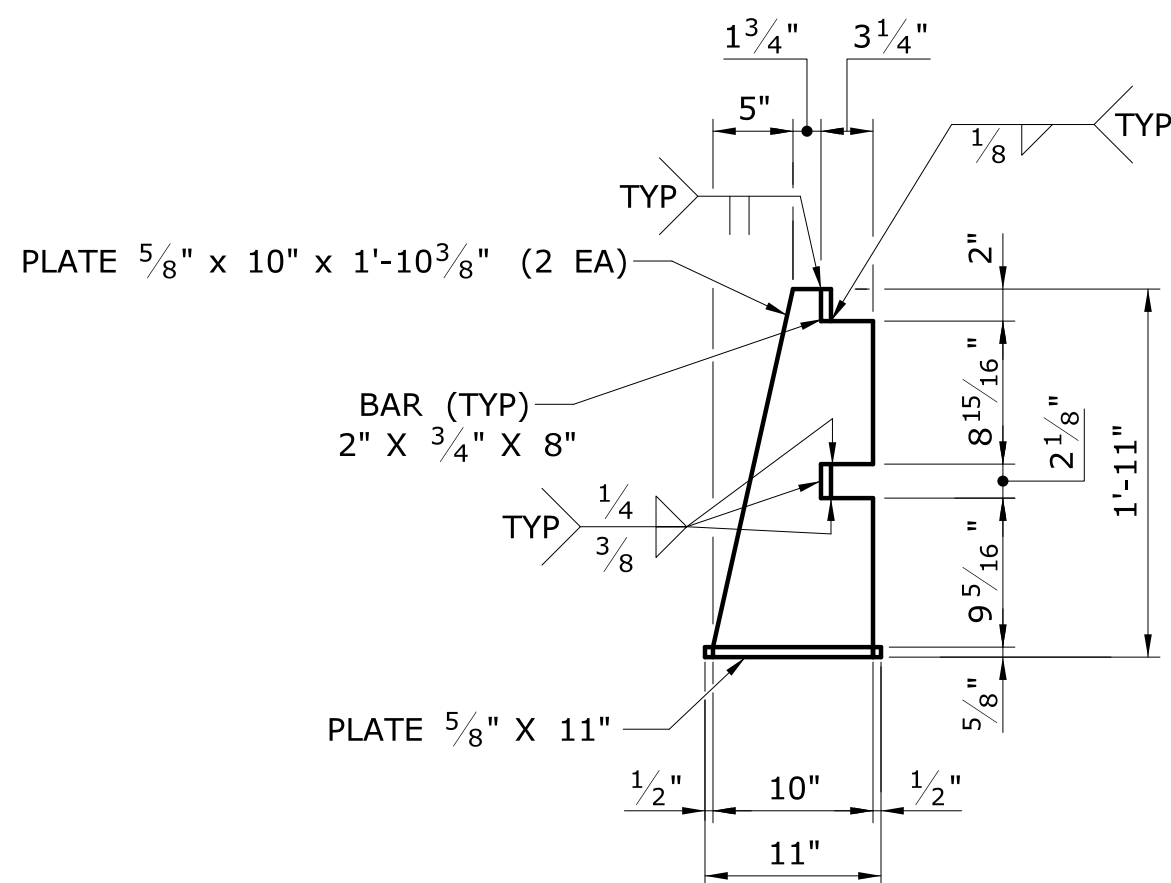
**A PLAN - BASE PLATE**  
(ANCHOR BOLTS, RAILS, AND RAIL BOLTS NOT SHOWN)  
SCALE 1" = 1'



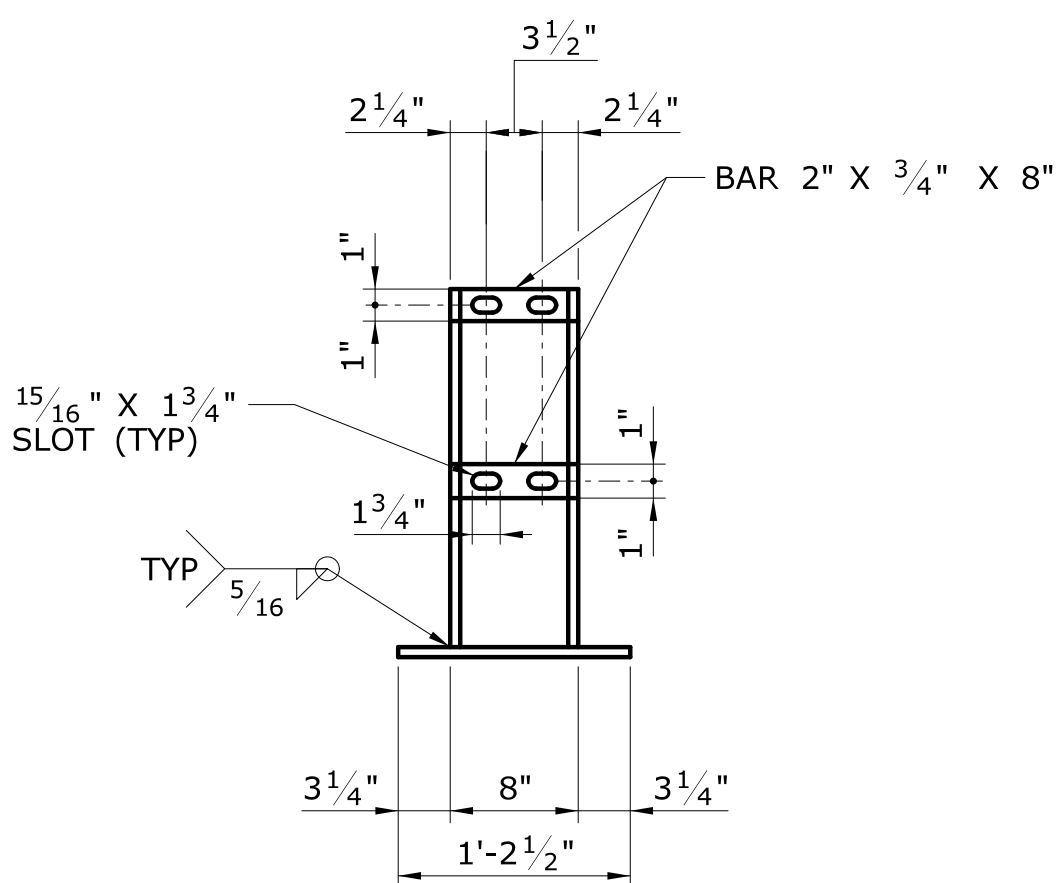
**ELEVATION AT RAIL TERMINATION**  
SCALE 1" = 1'

**NOTES:**

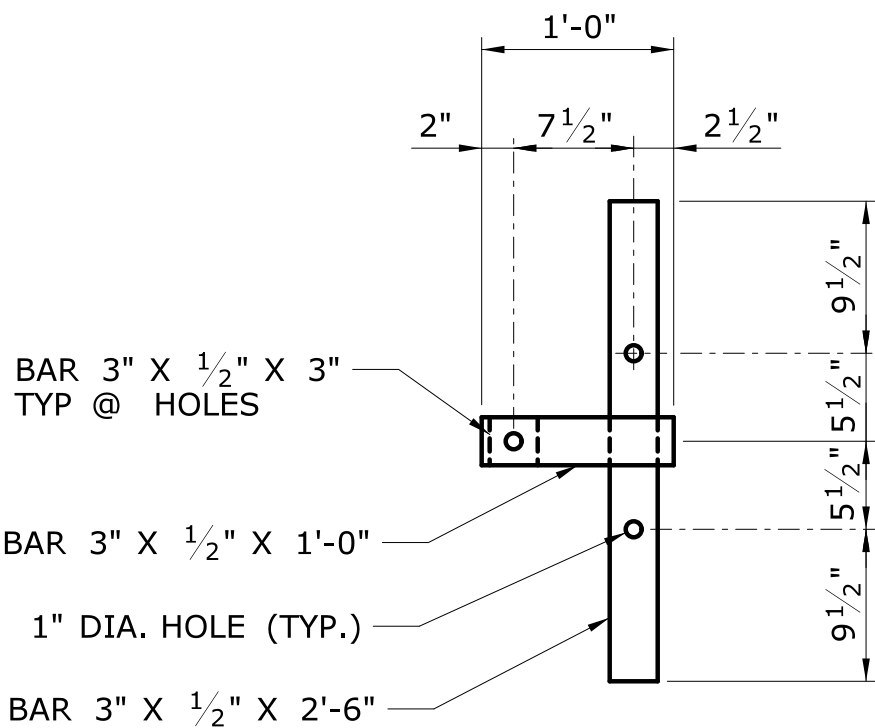
1. THE STRUCTURAL-TUBE RAILING SHALL BE MADE FROM STRUCTURAL STEEL IN ACCORDANCE WITH ASTM A500 GRADE B OR ASTM A501.
2. THE POSTS AND ANCHOR PLATES SHALL BE MADE FROM STRUCTURAL STEEL IN ACCORDANCE WITH ASTM A709 GRADE 36.
3. THE STRUCTURAL-TUBE RAILING, POSTS, AND ANCHOR PLATES SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM A123.
4. RAIL POST ANCHOR BOLTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A449 (120 KSI MINIMUM TENSILE STRENGTH) OR F1554 GRADE 105. NUTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A563 GRADE B, HEX. WASHERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F436.
5. OTHER BOLTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A307. NUTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A563 GRADE B, HEX. WASHERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F436.
6. ANCHOR BOLTS, OTHER BOLTS, NUTS, AND WASHERS SHALL BE HOT-DIP GALVANIZED TO THE REQUIREMENTS OF ASTM A153.
7. ENSURE THE EXPANSION SPLICE IS LOCATED IN THE RAILING PANEL WHICH PASSES OVER THE BRIDGE EXPANSION JOINT AS INDICATED ON THE PLAN.
8. SLOTS MAY BE OMITTED IN STANDARD SLEEVES WHERE BOLTS ARE REQUIRED ON ONE SIDE OF SPLICE ONLY.
9. AT POST LOCATIONS, DRILL TWO 1 1/16" DIA. HOLES IN THE RAILS TO RECEIVE RAIL BOLTS (SHOP OR FIELD). SEE POST DETAILS FOR HOLE SPACING.
10. BEFORE INSTALLING RAILS, PAINT CUT, DRILLED, OR OTHERWISE DAMAGED SURFACE AREAS OF THE RAILING COMPONENTS WITH TWO COATS OF ZINC RICH PAINT CONFORMING TO THE REQUIREMENTS OF ASTM A780.
11. AFTER INSTALLING THE RAILS, PAINT EXPOSED BOLT THREADS WITH TWO COATS OF ZINC RICH PAINT CONFORMING TO THE REQUIREMENTS OF ASTM A780.
12. RAIL POST SPACING SHOWN ON PLANS FOR EACH PARTICULAR BRIDGE.



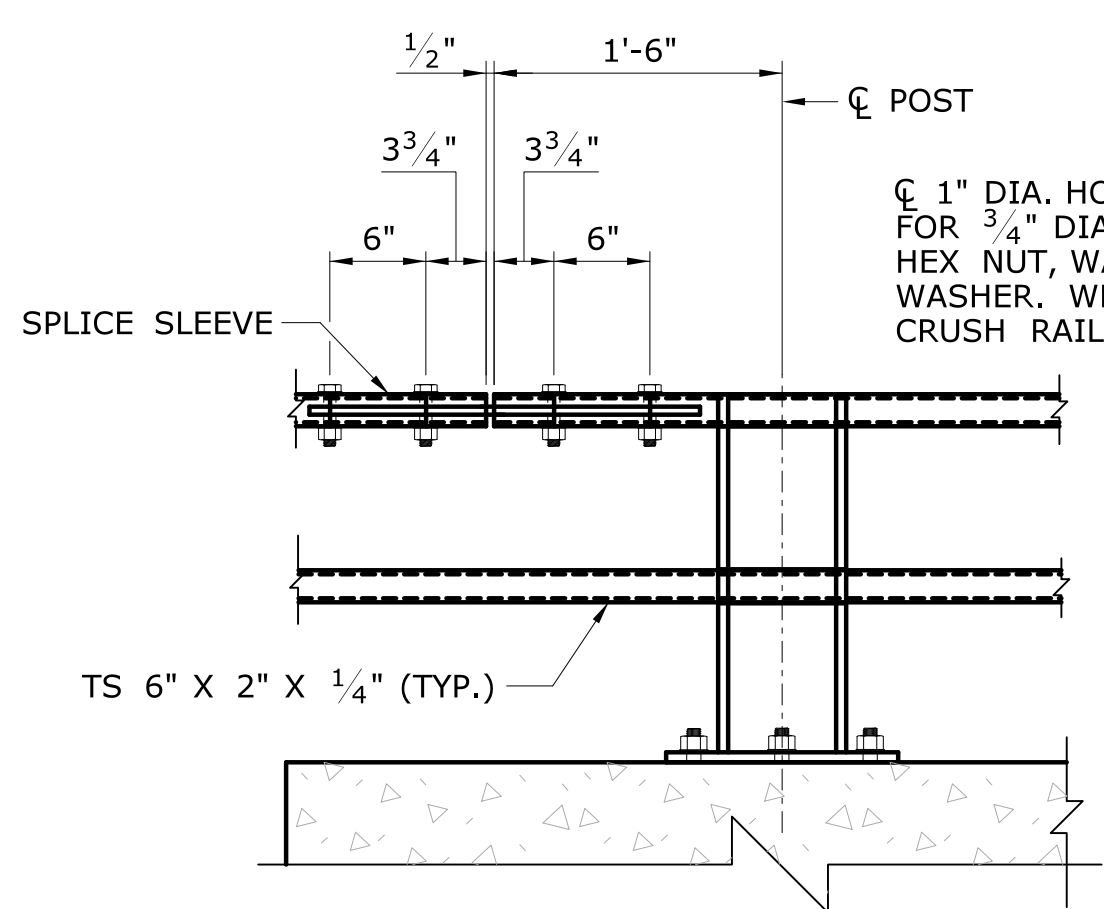
**SIDE VIEW**  
SCALE: 1" = 1'



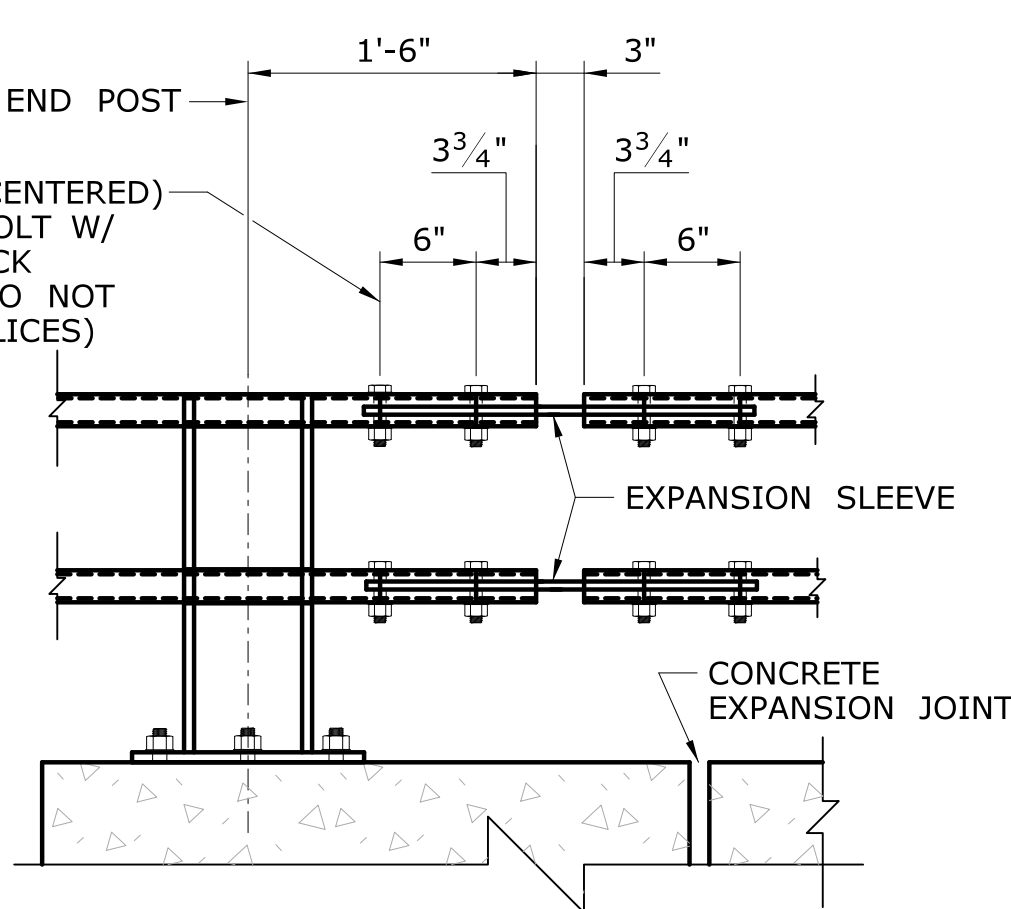
**FRONT VIEW**  
SCALE: 1" = 1'



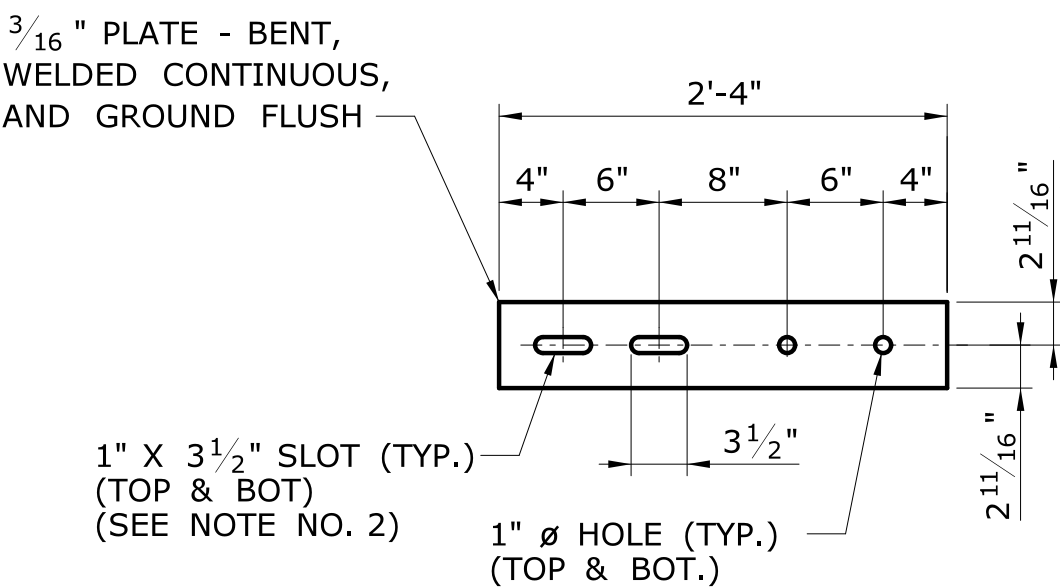
**B SECTION: ANCHOR PLATES**  
SCALE: 1" = 1'



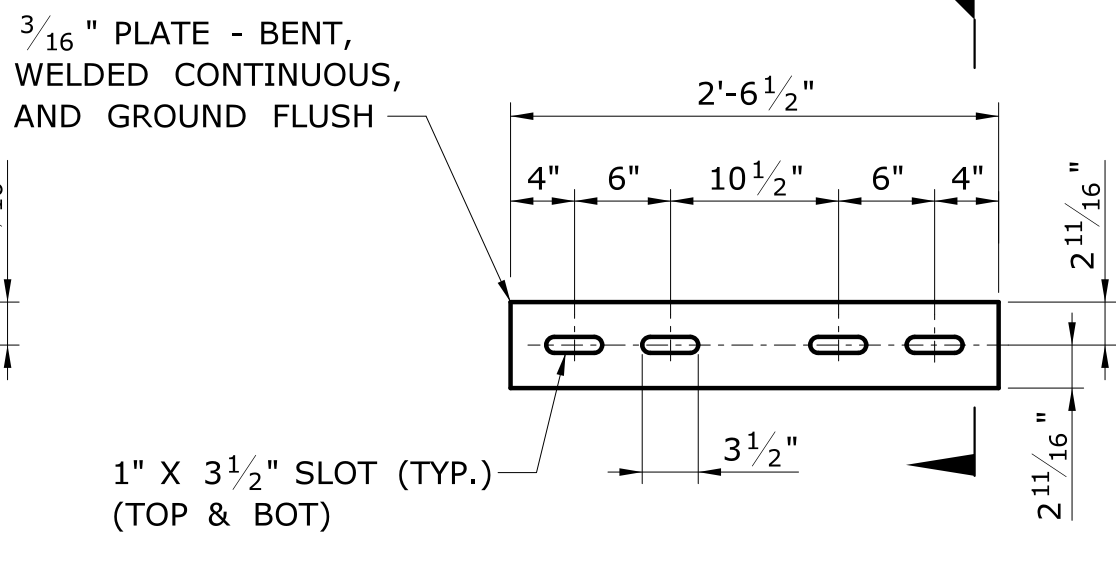
**DOUBLE-BOLTED SPLICE**  
(TOP OR BOTTOM RAIL)  
SCALE 1" = 1'



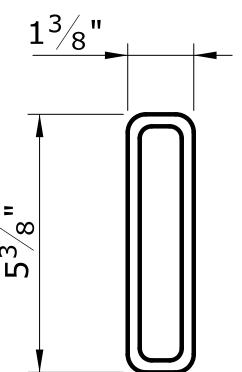
**EXPANSION SPLICE**  
(TOP AND BOTTOM RAIL)  
SCALE 1" = 1'



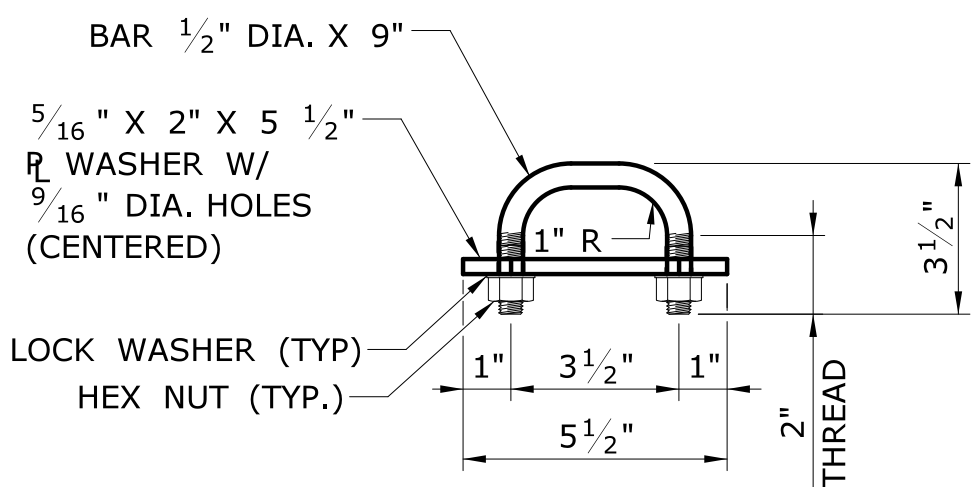
**SPLICE SLEEVE**  
SCALE: 1" = 1'



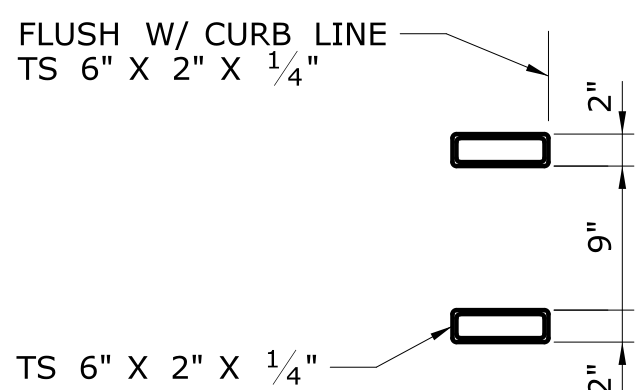
**EXPANSION SLEEVE**  
SCALE 1" = 1'



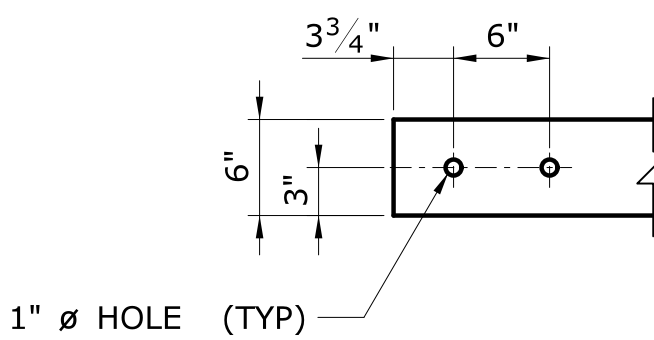
**C SLEEVE SECTION (END VIEW)**  
SCALE 3" = 1'





**RAIL BOLT DETAIL**  
SCALE: 3" = 1'



**RAIL SECTION**  
SCALE: 1" = 1'



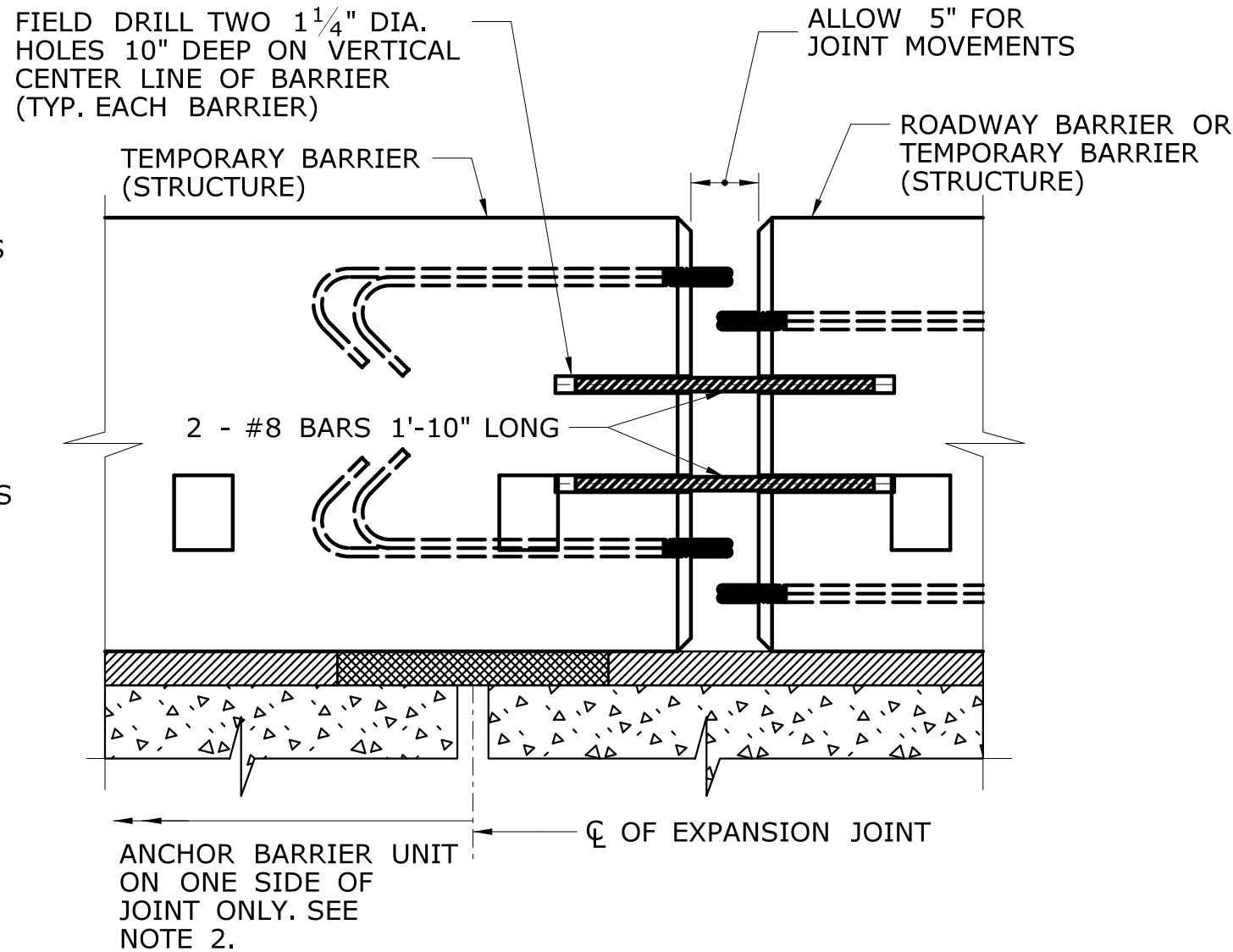
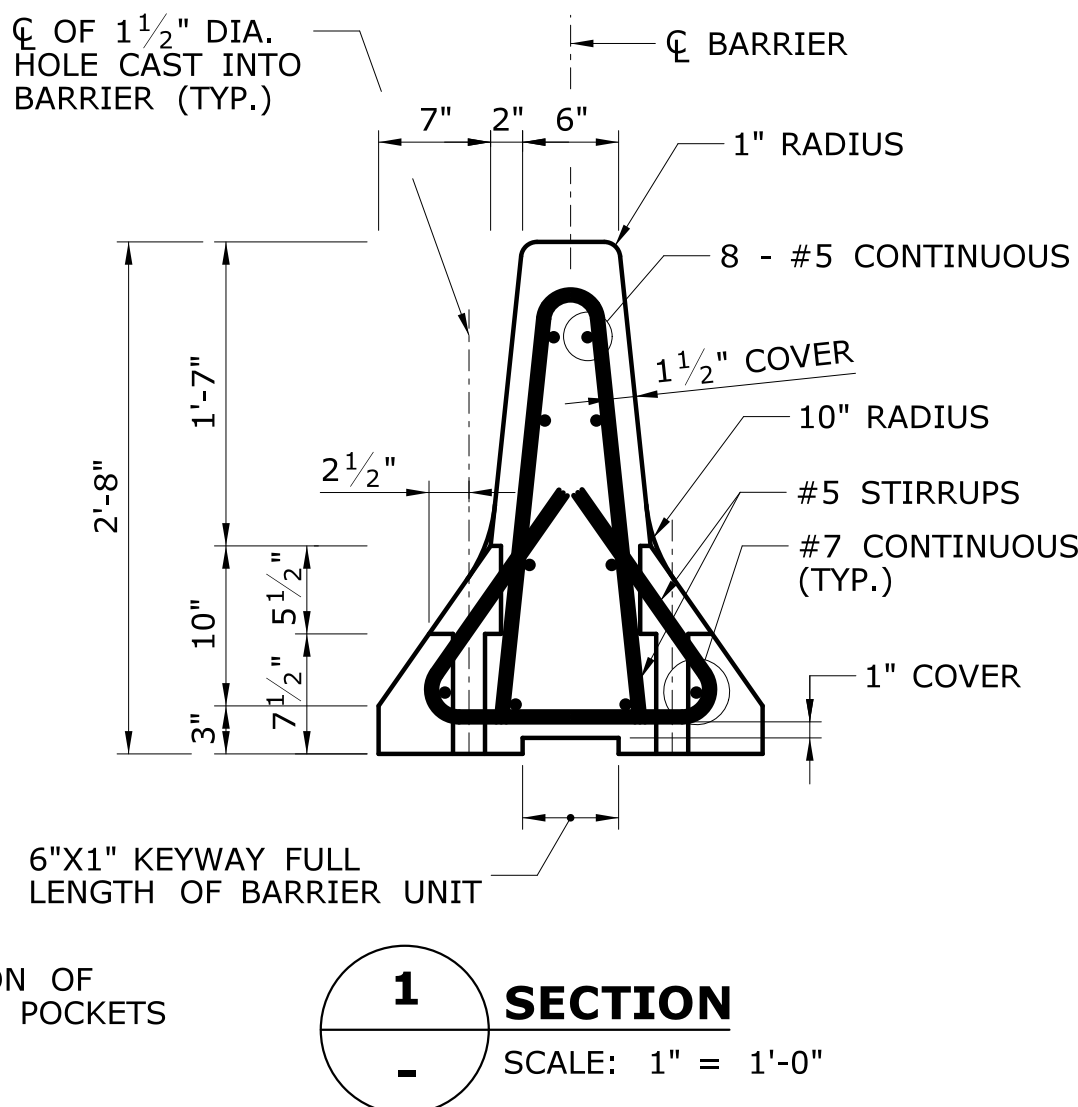
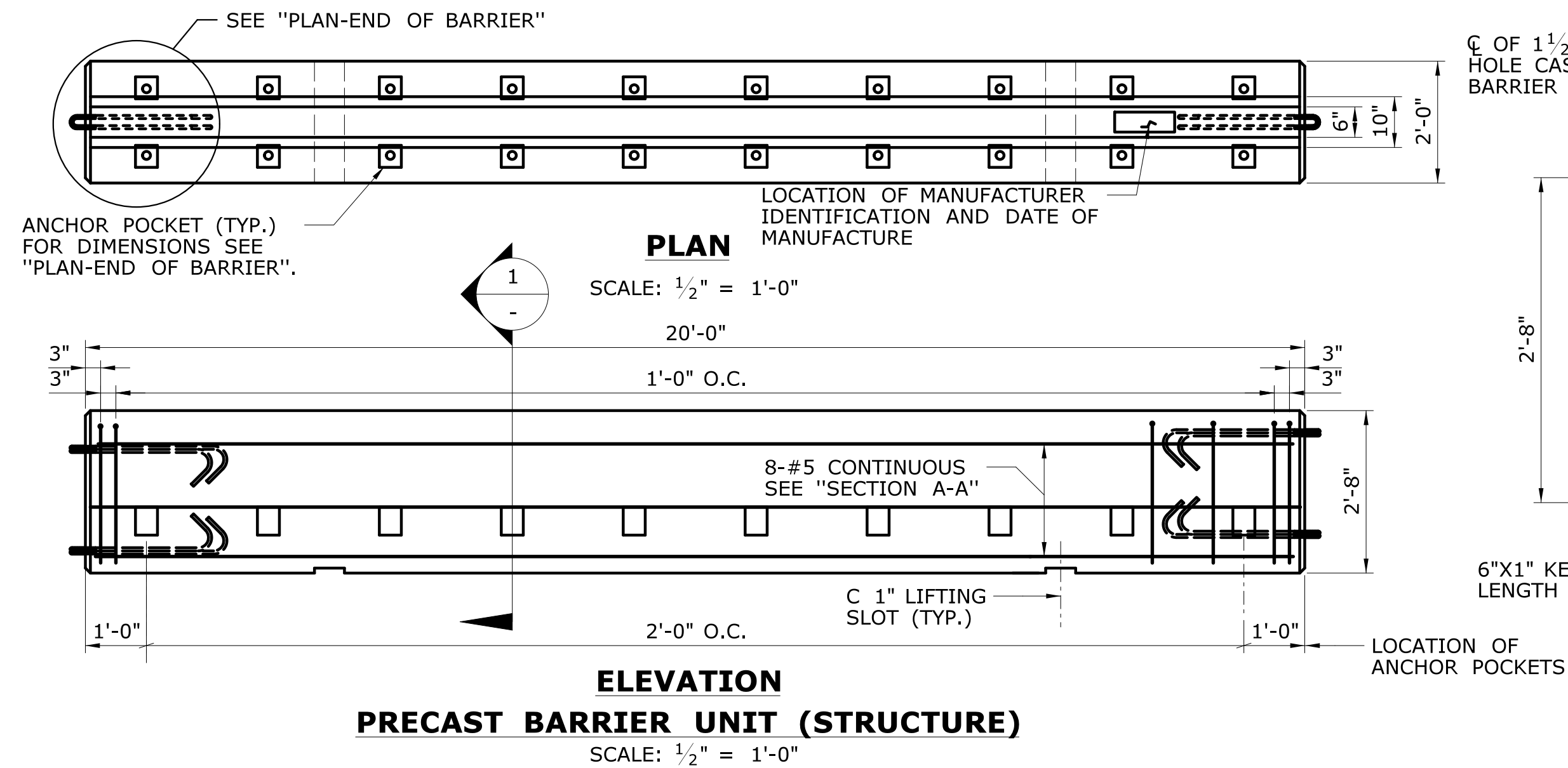
**PLAN: TYPICAL RAIL END DETAIL**  
SCALE: 1" = 1'

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REV.	DATE	REVISION DESCRIPTION		SHEET NO.	Plotted Date: 7/6/2016															









- NOTES:**
- THE TEMPORARY BARRIER SHOWN ON THIS SHEET SHALL BE ANCHORED ONTO BRIDGE DECKS (SEE "TEMPORARY ANCHORAGE SYSTEM") WHEN IT IS USED TO PROTECT A VERTICAL DROP-OFF. THE TEMPORARY ANCHORAGE SYSTEM SHALL CONFORM TO THE FOLLOWING:  
  
A. PRESTRESSED DECK UNITS: THREADED INSERTS SHALL BE USED FOR SECURING TEMPORARY BARRIER (STRUCTURE) TO PRESTRESSED DECK UNITS. THE THREADED INSERTS SHALL BE CAST INTO THE DECK UNITS DURING FABRICATION AND SHALL BE LOCATED AS REQUIRED TO ACCOMMODATE THE STAGE CONSTRUCTION. SEE SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION.  
  
B. CHEMICAL ANCHORING: THIS CONSISTS OF DRILLING HOLES IN NEW OR EXISTING CONCRETE, PLACING THREADED ANCHORS IN THE HOLES, AND SECURING THE ANCHORS WITH A PRE-APPROVED CHEMICAL ANCHOR MATERIAL WHICH CONFORMS TO M.03.01-15 OF THE STANDARD SPECIFICATIONS. HOLE DIAMETER SHALL BE DETERMINED BY THE MANUFACTURER OF THE CHEMICAL ANCHORING MATERIAL.  
  
C. THROUGH-BOLTING: THIS CONSISTS OF DRILLING THROUGH DECK SLABS AND SECURING REMOVABLE ANCHORS ON THE UNDERSIDE WITH PLATE WASHERS AND NUTS. THROUGH-BOLTING IS NOT PERMITTED ON NEW CONSTRUCTION OR PRESTRESSED CONCRETE. MAXIMUM HOLE SIZE IN SLAB = 1 1/2".
  - NUMBER OF ANCHORS: ON THE TRAFFIC SIDE OF A TYPICAL BARRIER, ANCHORS SHALL BE INSTALLED IN ALL POCKETS. AT BARRIER UNITS WHICH STRADDLE BRIDGE EXPANSION JOINTS THE ANCHOR AND CONNECTION DETAILS SHALL CONFORM TO TABLE "A".
  - THE WORK DONE ON THIS SHEET, WITH THE EXCEPTION OF THE DELINEATORS, SHALL BE PAID FOR UNDER THE ITEM "TEMPORARY PRECAST CONCRETE BARRIER CURB (STRUCTURE)".

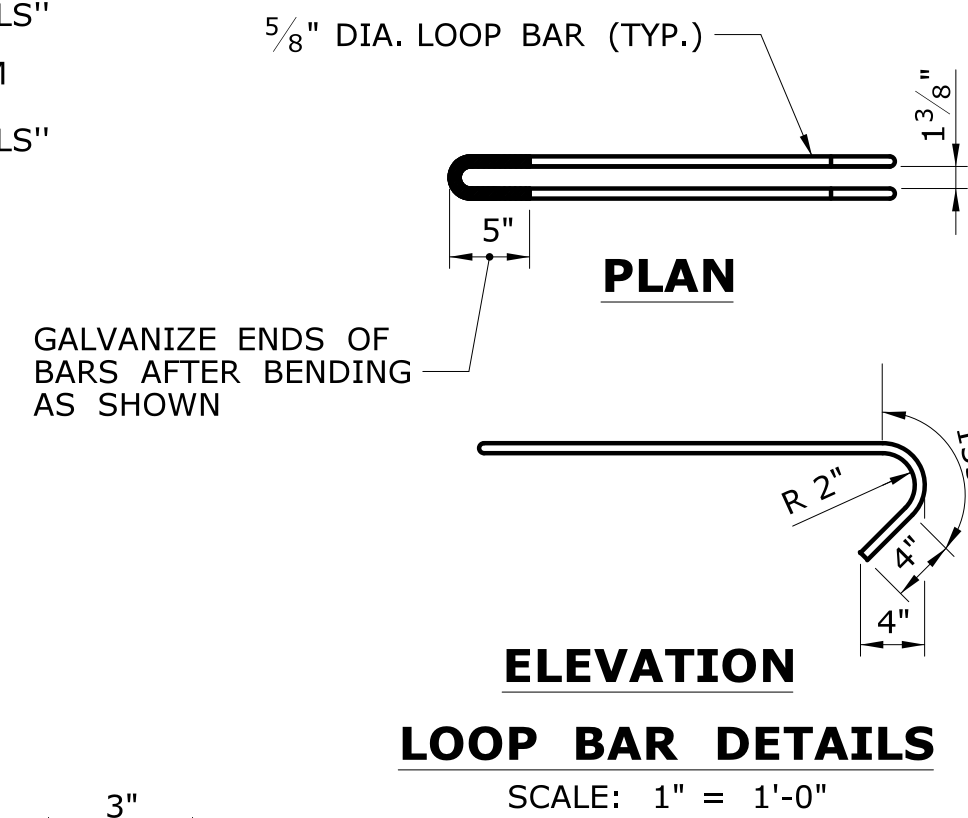
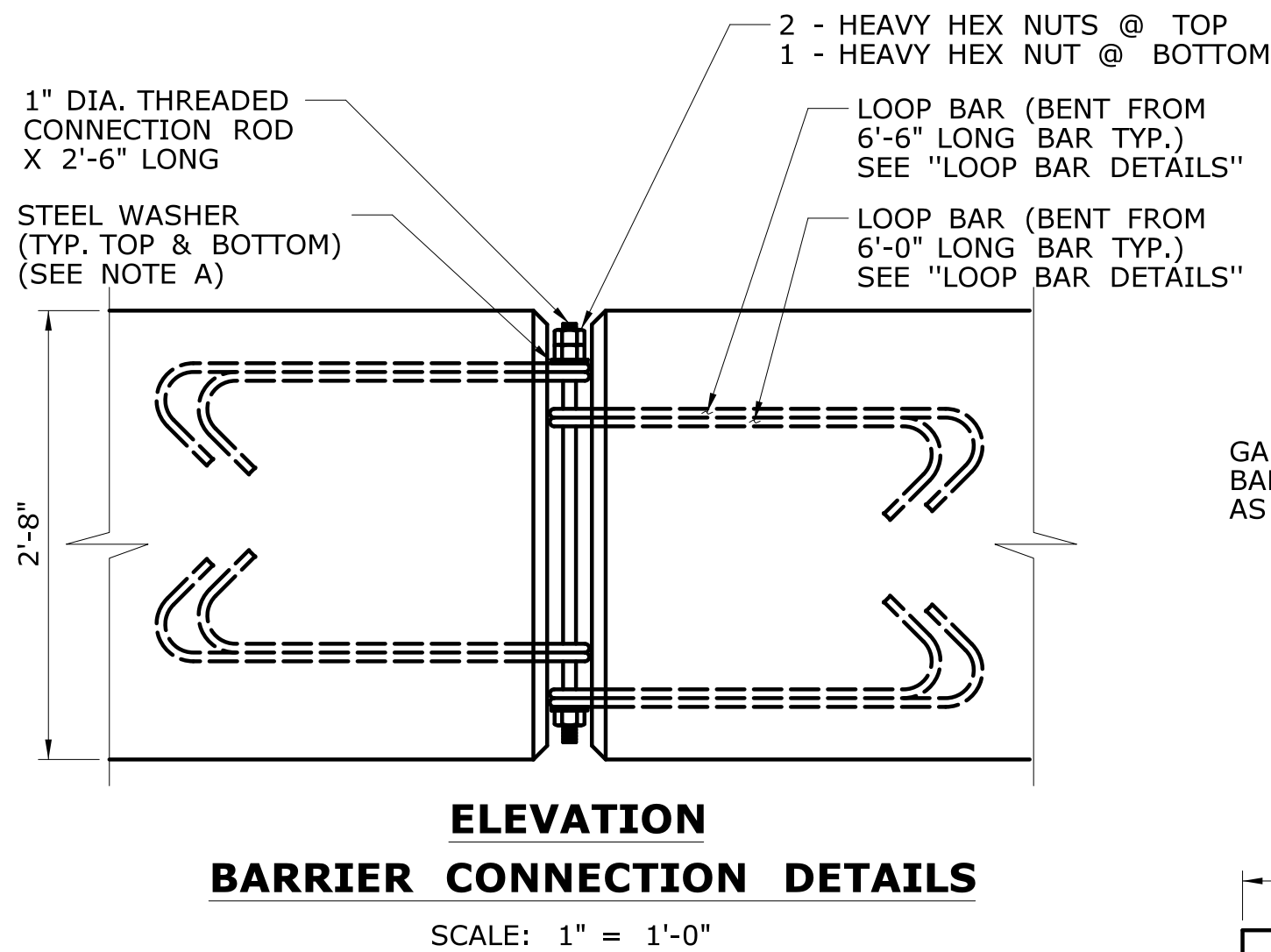
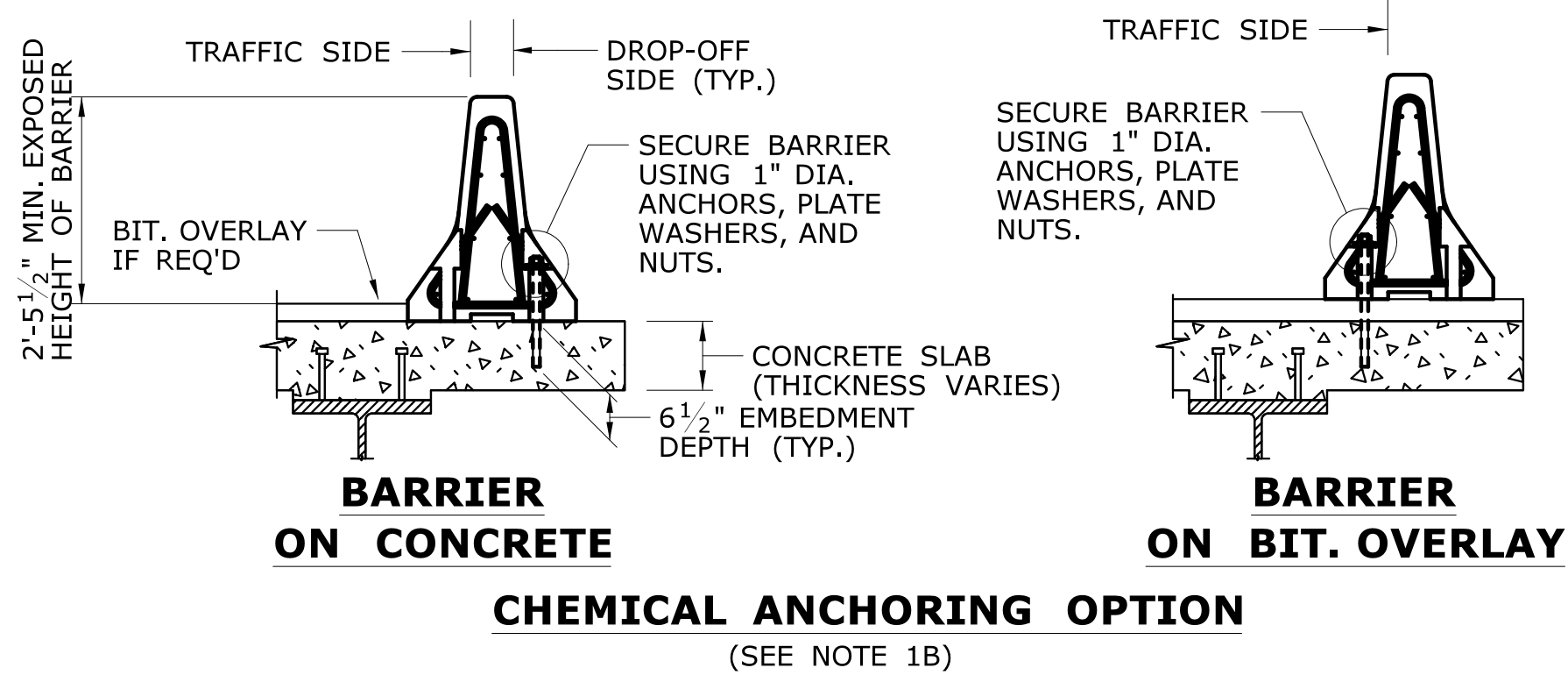
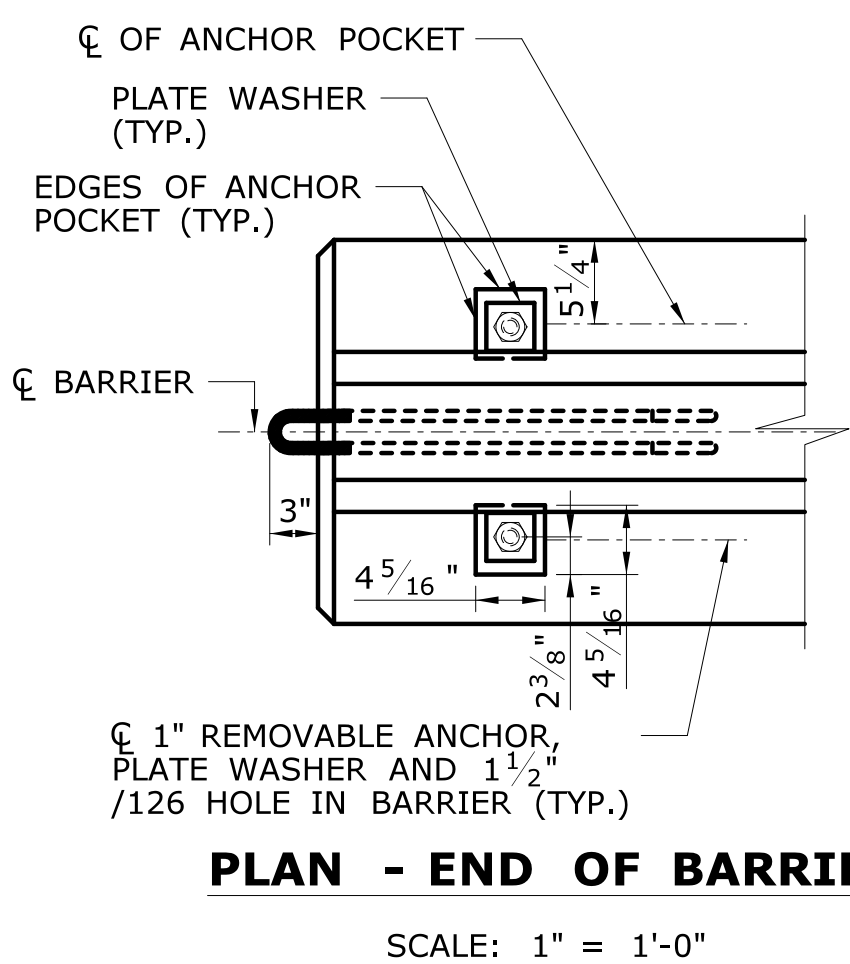
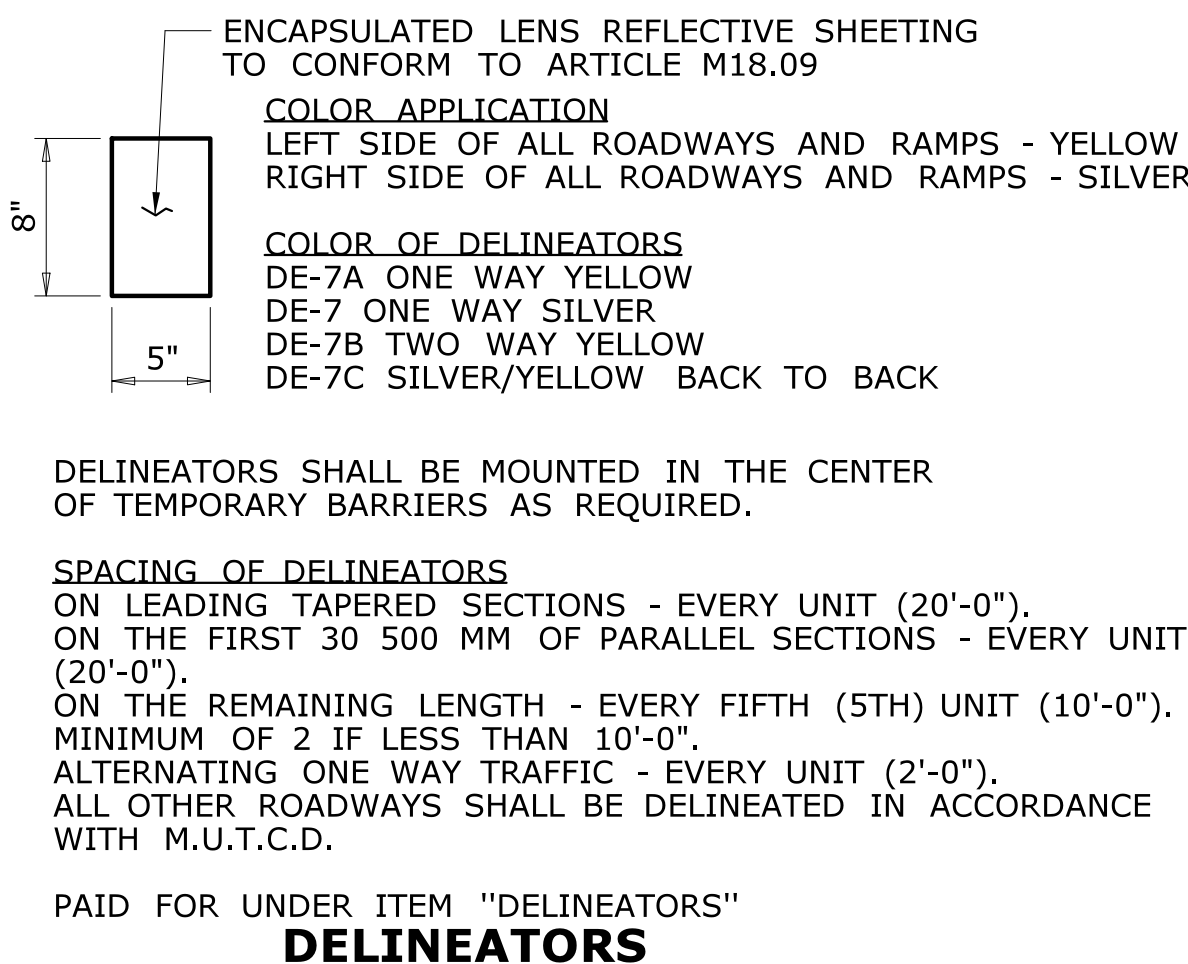
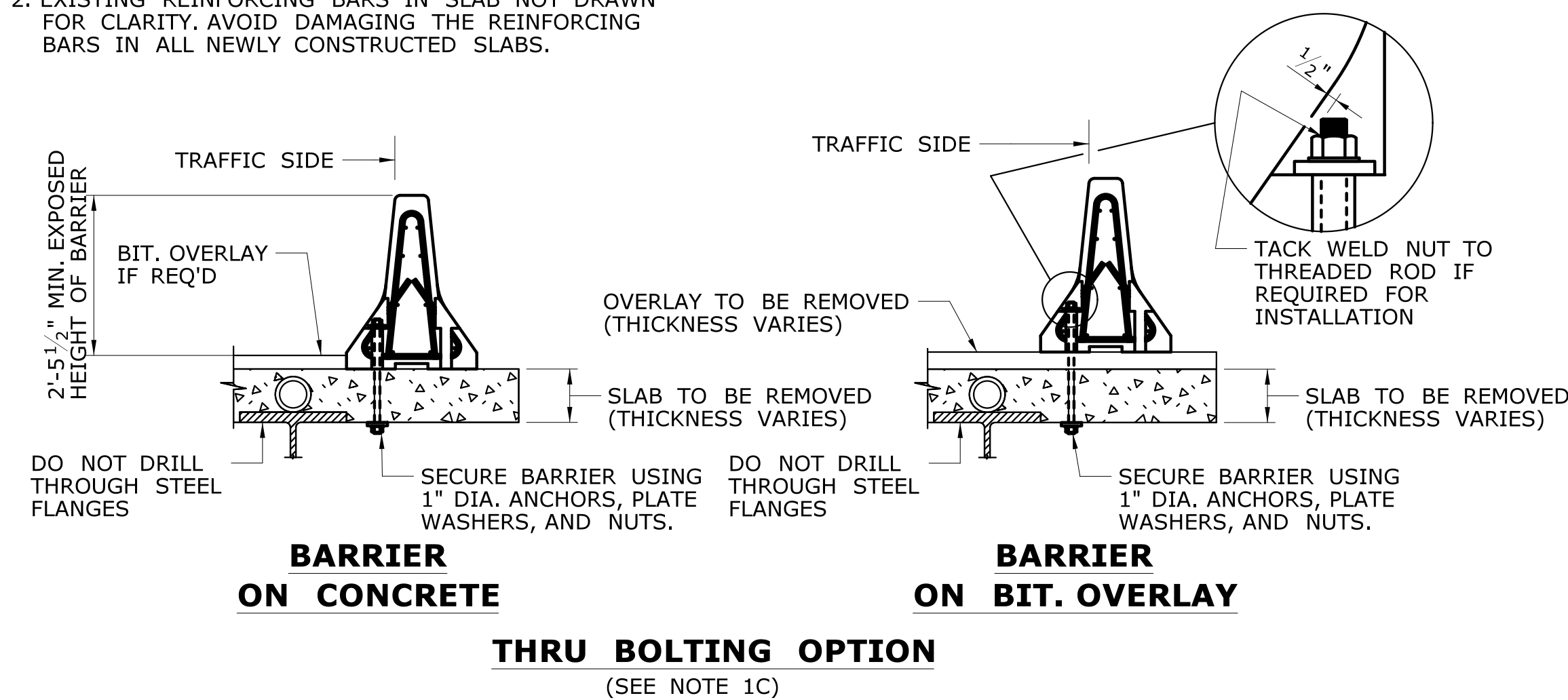
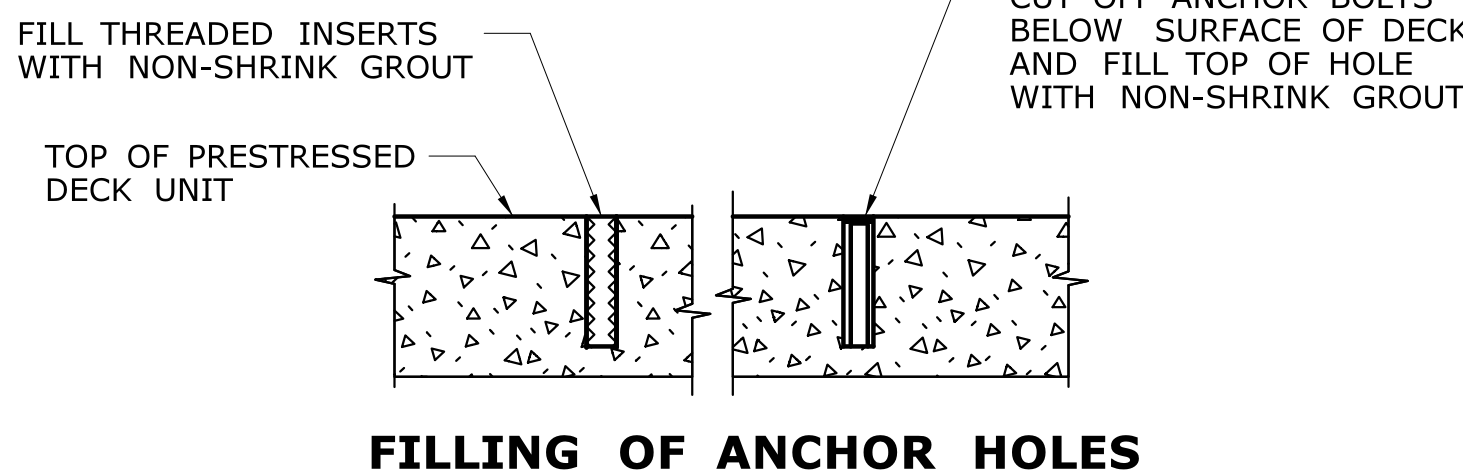


TABLE "A": BARRIER UNITS AT EXP. JOINTS			
CASE	SPAN LENGTH CONTRIBUTING TO MOVEMENT AT THE EXPANSION JOINT	METHOD OF END CONNECTION TO ABUTTING BARRIER UNIT. (WHERE MOVEMENT WILL OCCUR)	ANCHOR REQUIREMENTS FOR THE BARRIER UNIT WHICH STRADDLES THE BRIDGE JOINT
I.	UP TO 100 FEET	USE 1" CONNECTION ROD BUT DO NOT OVER TIGHTEN THE NUTS AND ALLOW ROOM FOR EXPANSION AROUND THE ROD AND LOOPS.	ON ONE SIDE OF THE JOINT ONLY, INSTALL AS MANY ANCHORS AS POSSIBLE ON THE TRAFFIC SIDE OF THE BARRIER. ON THE OTHER SIDE OF THE JOINT DO NOT INSTALL ANCHORS.
II.	10 TO 100 FEET	FIELD DRILL HOLES IN ENDS OF BOTH UNITS AND CONNECT WITH 2-#8 BARS. FOR DETAILS SEE "BARRIER CONNECTION DETAILS".	ON ONE SIDE OF THE JOINT ONLY, INSTALL A TOTAL OF 10 ANCHORS. FILL THE POCKETS ON THE TRAFFIC SIDE BEFORE FILLING THE POCKETS ON THE DROP-OFF SIDE. IF THIS CANNOT BE ACHIEVED SEE III BELOW.
III.	OVER 425 FEET AND BARRIER LAYOUTS WHICH DO NOT SATISFY II.	TO BE DESIGNED BY CONTRACTOR AND REVIEWED BY ENGINEER. COST OF DESIGNING AND FURNISHING SPECIAL BARRIER UNITS OR ATTACHMENTS PAID FOR UNDER "TPCBC (STRUCTURE)".	TO BE DESIGNED BY CONTRACTOR AND REVIEWED BY ENGINEER. COST OF DESIGNING AND FURNISHING SPECIAL BARRIER UNITS OR ATTACHMENTS PAID FOR UNDER "TPCBC (STRUCTURE)".

- NOTES:**
- FOR ANCHORING INTO DECK UNITS SEE NOTE 1A.
  - EXISTING REINFORCING BARS IN SLAB NOT DRAWN FOR CLARITY. AVOID DAMAGING THE REINFORCING BARS IN ALL NEWLY CONSTRUCTED SLABS.



- NOTES FOR CONNECTION ROD DETAILS (SEE "ELEVATION-BARRIER CONNECTION DETAILS")**
- PLAIN CIRCULAR STEEL WASHERS SHALL BE MANUFACTURED WITH THE FOLLOWING DIMENSIONS:  
OUTSIDE DIAMETER = 2 3/4" (+ 1/4", -0")  
INSIDE DIAMETER = 1 1/4" (± 1/16")
  - THE NUTS ON THE CONNECTION ROD SHALL BE TURNED UNTIL THE BOTTOM WASHER IS DRAWN UP AGAINST THE LOOP BAR. THE LOOP BARS SHALL NOT BE BENT DUE TO THE TIGHTENING PROCESS.
  - FOR EASE OF REMOVAL THE THREADS ON THE CONNECTION RODS AND NUTS SHALL BE WAXED.



REV.	DATE	REVISION DESCRIPTION	SHEET NO.	Plotted Date: 7/6/2016	DESIGNER/DRAFTER: <b>DK</b> CHECKED BY: <b>JG</b>	STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION Filename: ...\\SB_MSH_158-207_TBCBC.dgn	SIGNATURE/ BLOCK: 	GM2 ASSOCIATES, INC. 115 GLASTONBURY BLVD. GLASTONBURY, CT 06033	PROJECT TITLE: <b>REHABILITATION OF BRIDGE 00728 MERRITT PARKWAY OVER SAUGUTUCK RIVER</b>	TOWN: <b>WESTPORT</b>	PROJECT NO. <b>158-207</b> DRAWING NO. <b>S-42</b> SHEET NO. <b>05.03.42</b>
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